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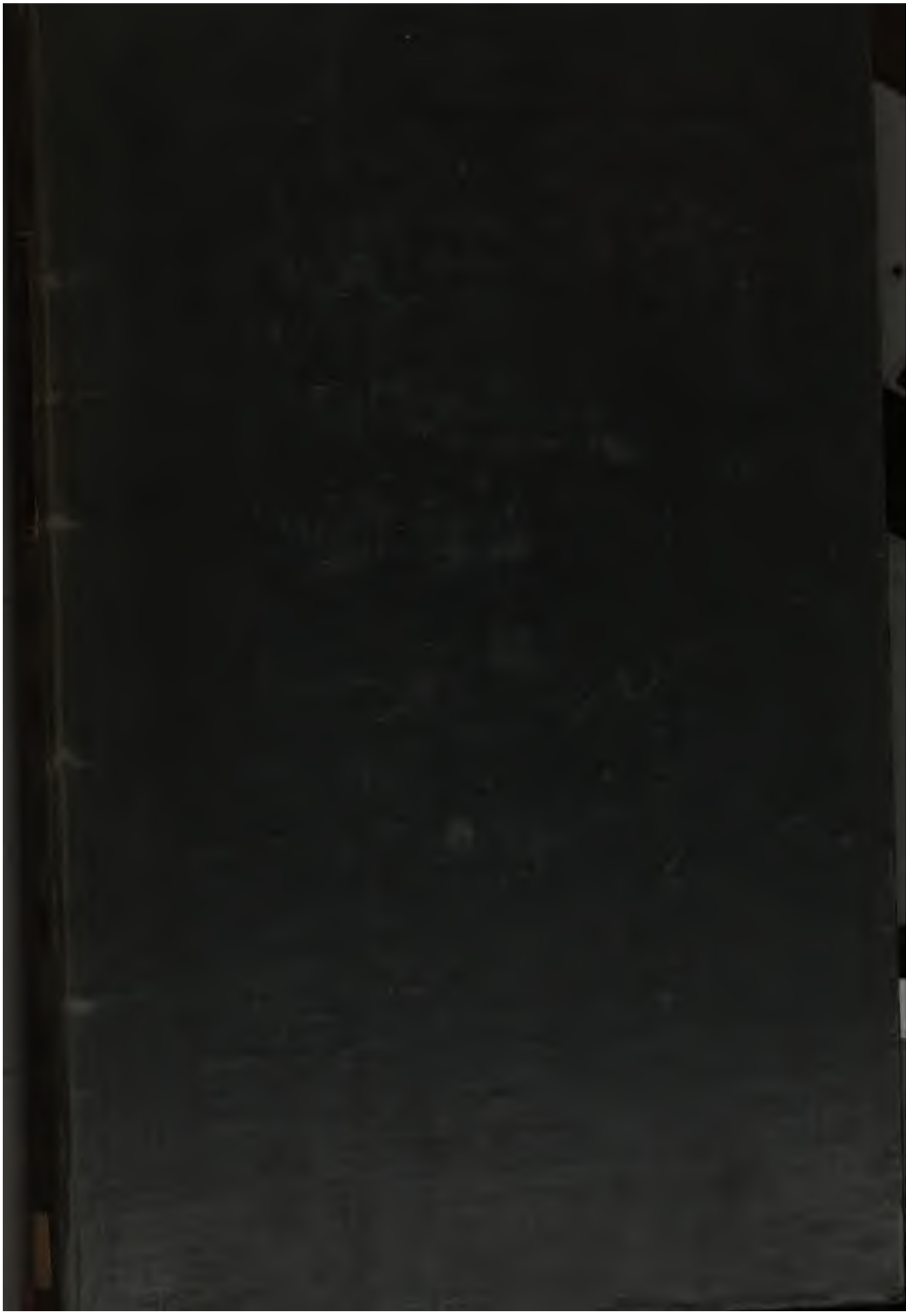

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SUPPLEMENT

TO THE

ENGLISH BOTANY

OF THE LATE

SIR J. E. SMITH AND MR. SOWERBY.

THE DESCRIPTIONS, SYNONYMS, AND
PLACES OF GROWTH

BY

WILLIAM JACKSON HOOKER, LL.D.

REGIUS PROFESSOR OF BOTANY IN THE UNIVERSITY OF GLASGOW,
F.R.S. F.S.A. L.S. &c. &c.

AND OTHER EMINENT BOTANISTS;

THE FIGURES BY

JAMES DE CARLE SOWERBY, F.L.S. &c.

". . . . jam tempus equûm fumantia solvere colla."

VIRG.

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In consequence of the death of Mr. C. E. Sowerby, the late proprietor of the "Supplement to English Botany," it has been found expedient to bring the Third Volume to a premature close. It is hoped that the additional illustrations of our native Flora, which it contains, will not be deemed less interesting than those of the two preceding volumes.

The slow migration of plants by natural causes, must render the Flora of every country liable to increase, independent of the species likely to be introduced to our own, from time to time, by its great commercial intercourse and imports from all parts of the world: added to which our railroads, traversing districts hitherto but very superficially examined, have, by the facility they offer to the excursions of the Botanist, contributed to bring within his notice some local species that were previously unknown; while the numerous excavations that are daily progressing for their extension, are likely to bring to light and life the seeds of others that have never yet formed a part of the existing series of British vegetation. The publication of such species, many of which are already in possession, being the object of the "Supplement," they will appear at intervals in a new series to be published by Mr. J. D. C. Sowerby.

3 Mead Place,
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May 1st 1837.

GLYCERIA Borreri.

Borrerian Meadow Grass.

TRIANDRIA Digynia.

GEN. CHAR. "*Cal.* of 2 valves containing many florets. *Cor.* awnless, cylindrical, furrowed, ribbed, abrupt, not keeled. *Seed* loose, cylindric-oblong." —*Smith.*

SPEC. CHAR. Panicle spreading, in fruit ascending and patent. Spikelets linear, of about 4 flowers. Florets free. Outer glume of corolla obsoletely 5-nerved with a minute point. Root fibrous.

AS the generic arrangement of the Grasses appears to be in a very unsettled state, I have thought it better, temporarily, to place this plant in the genus *Glyceria*, to which I have no doubt that it would have been referred by the late Sir J. E. Smith. But having recently, in a communication to the Linnean Society, considered it, in conformity with the views of the celebrated Kunth, as belonging to the section *Sclerochloa* of his genus *Festuca*, I may be allowed to add, that it appears much more nearly related to that genus than to *Poa*, in which its allies have been placed by several eminent botanists.

The root is fibrous, the stems ascending, from 6 inches to more than a foot in height, smooth and striated, bearing 1 or 2 small leaves with very long sheaths, having short, slightly acute, and membranous ligules. Leaves flat, furrowed, scabrous on the margins and upper surface. Panicle at first compact, afterwards patent, its branches semi-verticillate, rough and spreading; when in fruit never deflexed. Spikelets usually 4, sometimes 3- or 5-flowered, the flowers imbricated in two rows, much nearer together than in *G. distans*. Calycine glumes 2, glabrous, concave, their margins membranous; the exterior one ovate, with one strong nerve, reaching not quite to its top; the interior much larger, yet far shorter than the contiguous flower, broadly

ovate-elliptical, with 3 nerves, the middle one usually reaching quite to the top, and scabrous on its upper part, the others terminating at about two thirds of its length. Glumes of the corolla 2, the exterior one ovate, rounded at the end, obsoletely 5-nerved, the central nerve extending just beyond the point of the glume so as to form an apiculus; the interior glume scarcely shorter, with two ciliated keels, rounded at the end and slightly emarginate. Scales tumid at their base. Germen oblong. Stigmas feathery, but not branched a second time.

The above species may be distinguished from *G. distans* by its ascending branches when in fruit, the spikes seldom more than 4-flowered, the exterior glume of the corolla pointed, and its dorsal nerve extending to the apex; from *G. procumbens* by its patent branches, its spikelets not more than half the size, its exterior pointed glume of corolla, and the erect stalk; from *G. maritima* by the patent branches, its spikes about half the size, and the flat leaves.

This plant has long been distinguished from its allies by my excellent friend Mr. Borrer, to whom I am indebted for first drawing my attention to it. He having omitted to describe it, I have now the pleasure of naming it after its discoverer, who, I trust, will accept this as a slight acknowledgement of the many favours which I have received from him. It appears to be far from an uncommon plant upon the English coast, having been gathered by Mr. Borrer at Gosport (from whence the specimens figured were forwarded by him), Selsea, Southampton, Stokes Bay, Shoreham and Freshwater in the Isle of Wight. I have myself noticed it at Harwich, and in Canvey Island near the mouth of the Thames. It is found mostly about brackish ditches, often in company with *G. procumbens* and *distans*.

CHARLES C. BABINGTON.

May 1st 1837

ECHIUM violaceum.

Violet-flowered Viper's Bugloss.

PENTANDRIA Monogynia.

GEN. CHAR. *Cal.* 5-parted. *Cor.* irregular, obliquely 5-lobed, its throat dilated, open, naked. *Stigma* deeply cloven. *Germen* deeply 4-lobed. *Seeds* 4.

SPEC. CHAR. Stem herbaceous, branched, hispid, without tubercles. Lower leaves ovato-oblong, petiolate; upper ones cordato-lanceolate, amplexicaul at the base. Spikes elongated. Stamens scarcely exserted.

SYN. Echium violaceum. *Linn. Sp. Pl. Willd. v.* 1. *p.* 788. *Hook. Brit. Fl. ed.* 3. *p.* 98. excluding the synonym E. plantagineum, *Linn. Mant. p.* 202. Lycopsis, *Ray, Syn. p.* 227.

THIS very distinct species of *Echium*, a native of the middle and southern parts of Europe, is mentioned by Ray as growing plentifully on the sandy ground about St. Hilary, Jersey; and from specimens gathered on the same spot by Mr. Trevelyan our figure has been taken. Root biennial. Stem with spreading branches, often decumbent. Root-leaves elliptical, tapering at the base into a petiole; those of the stem lanceolate or linear, generally somewhat cordate below, sessile and stem clasping. Spikes diffuse, more elongated than in *E. vulgare*; and with more distant flowers. Corolla bright blue, hairy, sometimes with a violet tinge, but never red like that of the common species at its first

expansion. Stamens varying in proportion in different flowers but always unequal, one being very short, 2 about the length of the corolla, and the remaining 2 generally extending much beyond it. The whole herb is rough with white bristly hairs, some of which arise from exceedingly minute and inconspicuous tubercles resembling those of *E. vulgare*, but the pubescence is altogether far less rigid than in any variety of that plant, and the more slender, diffuse habit of the present renders it impossible to confound them. Flowers in August.

E. italicum, tab. 2081, is not a native of the British Islands, and the error of recording it as such originated doubtless in a white-flowered variety of *E. vulgare* being occasionally met with, and which was for a long time supposed to be identical with the Jersey plant.

LILIUM Martagon.

Martagon Lily. Turk's-cap Lily.

HEXANDRIA Monogynia.

GEN. CHAR. *Perianthium* inferior, 6-petaled, campanulate. *Petals* with a longitudinal nectariferous line. *Stamens* shorter than the style. *Stigma* entire. *Caps.* trigonous. *Seeds* flat.

SPEC. CHAR. Leaves whorled, ovato-lanceolate. Flowers reflexed. Corolla revolute.

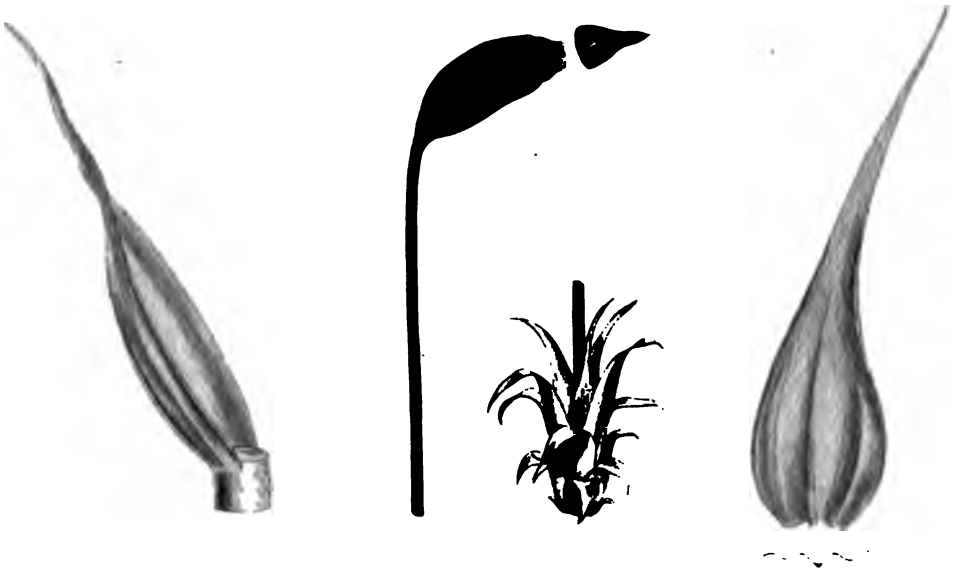
SYN. Lilium Martagon. *Linn. Sp. Pl. Willd. v. 2.* 88. *Bot. Mag.* 1634.

So frequent an ornament of our gardens as is the Martagon Lily, which has undoubtedly been a denizen of them for nearly three centuries, its naturalization can scarcely be deemed equivocal; and while the *Œnothera* and the *Datura*, the date of whose introduction is far more recent, are from their vagrant habits universally adopted in our catalogues of British plants, it would be fastidious to hesitate on the admission of so beautiful a member to our native Flora. Communicated by the Rev. William A. Bromfield and Mr. Borrer, from a copse on the grounds of Mr. Reid at Woodmanstone, about five miles from Epsom, well known to the inhabitants of the village under the name of Turk's-cap Shaw. It grows among the thick underwood in great abundance, and is remembered by the older people of the neighbourhood to have flourished truly wild in that locality for more than half a century. Found likewise

under similar circumstances in Marden Park near Godstone, and in a wide hedge-row between Headley and Juniper Hall, under Box Hill.

Bulb scaly, yellow. Stem about 3 feet high, slightly pubescent, terminating in a loose, wide-set panicle. Leaves ovato-lanceolate, the upper ones almost linear; in very regular, distant whorls. Petals, elegantly recurved, bright purple with darker spots, under cultivation sometimes white.

The bulbs of this and other species of Lily are cultivated in some parts of the Continent as the potato is with us, and furnish a nutritious and agreeable article of vegetable diet.



HYPNUM salebrosum.

Pale shining Feather-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fruitstalks* lateral. *Peristome* double, outer of 16 teeth; *inner peristome* a membrane cut into 16 segments with intermediate filiform processes. *Calyptra* dimidiate.

SPEC. CHAR. Stems procumbent, sub-pinnate. Leaves erecto-patent, loosely imbricated, ovato-subulate, acuminated and striated, the margins reflexed, serrulate above, nerved more than half-way. Fruitstalk smooth. Capsule ovate, cernuous. Lid conic-acuminate.

SYN. Hypnum salebrosum. *Web. & Mohr. Fl. Crypt. Germ.* 312. *Hook. & Tayl. Musc. Brit.* 166. *Bridel. Bryol. Unio.* 2. 478. *Hooker's Engl. Fl.* 2. 1. 83.

FROM the neighbourhood of Cotteral Wood in Cheshire, where it was first found by the late Edward Hobson, of Manchester, a zealous collector and also a vender of cryptogamic plants.

An elegant species, ripening its capsules in January, remarkable for its pale green colour, growing on moist declivities in a marly soil. Stems straggling, procumbent. Branches nearly erect. Leaves loosely imbricated, very thin and chaffy, somewhat unilateral, moderately spreading, ovate and concave below, with three strong furrows or striæ; the upper portion suddenly contracted and much acuminated, serrulated; the point almost hair-like, margin

recurved, especially from the middle upwards. Perichætial leaves nerveless, ovate below, the upper portion spreading, suddenly acuminated into a long hair-like point. Fruit-stalk smooth and shining. Capsule smaller than in most of the allied species, ovate, moderately cernuous and occasionally a little curved. Peristome reddish; outer teeth slender; inner peristome pale yellow, somewhat shorter, divided halfway down into 16 lanceolate pervious segments; with intermediate pairs of cilia half as long. Operculum reddish, conical, tapering, very acute, half as long as the capsule.

H. lutescens, an allied species, has a rough fruitstalk and a blunt *shortly rostrate* lid, with closely imbricated and erect leaves. *H. nitens* has leaves considerably narrower, truly awl-shaped. Perhaps it is more closely allied to *H. albicans*, but the leaves in that species, though similar in shape and somewhat serrulate at the edges, are only very faintly marked with two lateral striæ, scarcely visible when dry; and they are more crowded and erect.—W. W.

a.

b

a

b

LECANORA pezizoides.

Flat-shielded Brown Scaly Lecanora.

CRYPTOGAMIA Lichenes.

GEN. CHAR. *Scutellæ* sessile, with a margin of the same substance as the thallus.

SPEC. CHAR. Thallus of minute, lobed, convex, confluent, greyish-brown scales. Scutellæ flattish, sinuated; margins slightly elevated, narrow, crenulate. Disk yellowish-brown.

SYN. Lecanora brunnea. *Ach. Lich. Univ.* 419. *Syn.* 193.
Parmelia brunnea. *Ach. Meth.* 186. *Fries, Lich. Eur. Reform.* 93.
Lichen pezizoides. *Web. Spic. Goett.* 200. *Dicks. Crypt. fasc.* 1. 10. *t.* 2. *f.* 4. *With. ed.* 3. *v.* 4. 21.
L. brunneus. *Swartz, Nov. Act. Ups. v.* 4. 247? *Ach. Prod.* 49. *Wahl. Fl. Lapp.* 420.
Patellaria nebulosa. *Hoffm. Pl. Lich. v.* 2. *fasc.* 355. *t.* 40. *f.* 1. fide *Ach.**

MOUNTAINOUS districts of England, Scotland, and Ireland produce this beautiful but ill understood Lichen. It grows in mossy spots, on the ground and on rocks, and sometimes on rotten wood. The specimen figured at *a* was sent from Bantry by Miss Hutchins; that at *b* from Holwick Scar, Yorkshire, by Mr. W. Robertson.

Thallus in irregular and, often, interrupted patches, composed of minute tartareous convex scales, bluish-green within, externally unpolished, and of a greyish-brown varying in intensity,† which are more or less confluent, and form a very uneven crust. When most distinct, they are

* Hoffmann himself declares it a variety of this species, under his *Psora coronata* in *Pl. Lich. v.* 3. *fasc.* 2. p. 3. The figure might have inclined us to refer it rather to *Lecidea coronata.*

† Probably greenish when the plant is living, in which state we have not at present an opportunity of seeing it.

much lobed, notched, and crenate, and usually paler at the edges. Old specimens are sometimes almost black. Scutellæ numerous, mostly crowded, sessile, orbicular at first, but often in a more advanced stage variously lobed and flexuose, appearing as if formed, and sometimes perhaps actually formed, of several confluent individuals: their disk flat or slightly convex, varying from yellowish brown to chestnut or a darker hue; redder and tumid when wet: their margin of the same substance and hue as the thallus, inflexed, everywhere plicate, notched or crenulate, and, except in very young scutellæ, narrow and but little raised above the edges of the disk.

Possessing a specimen from Dickson of his *Lichen pezizoides*, and seeing no sufficient reason to doubt the identity of Weber's plant, we prefer this as the older name. Indeed it is by no means certain what Swartz intended by his *Lichen brunneus*, since he inserts *L. pezizoides* of Weber as distinct, immediately before his notice of *L. brunneus* as a new species, and a specimen of the latter from himself, in the Smithian herbarium (as well as an authentic specimen in the same collection of *L. multiflorus* of Ehrhart), appears rather to belong to *L. hypnorum* of Dickson, with which however Swartz's character* does not well agree.

The less confluent state of our Lichen (fig. *b.*) is liable to be mistaken for *Lecanora hypnorum*, but the scales of the thallus in that species are individually larger, rounder, and more simple, being scarcely lobed; and its more elevated, deeply-cupped, and Parmelia-like scutellæ, afford another and a satisfactory distinction. This is unfortunately not expressed in *Engl. Bot. t.* 740, which may possibly even have been drawn from a specimen of *L. pezizoides*.—*Lecanora carnosa t.* 1684, and *Lecidea triptophylla*† (*Lichen microphyllus*,) *t.* 2128, besides the differences in their apothecia, are distinguishable by their flatter scales with ascending edges; and the latter species additionally by the grey granulations that usually border the scales, and often convert the whole central part of the patch into a thick powder-like mass; *L. pezizoides* producing no such granulations. The black fibrous substratum also of *L. triptophylla* is usually very copious and conspicuous. Fries attributes a fibrous substra-

* "L. crustaceus, fuscus, scutellis planis, rufis." His further description is: Crusta tenuis viridi-fusca. Scutellæ juniores viridescentes, ætate brunneæ l. rufæ.—*Nov. Act. Ups. l. c.*

† *Lecidea triptophylla, Ach. Lich. Univ.*—*Lichen microphyllus* of Schrader, but probably distinct from the original *L. microphyllus* of Swartz, although Acharius unites the two in his *Synopsis*.

tum to *L. pezizoides*; but, if present, it is very inconsiderable, and we have not satisfied ourselves that the nearly similar appearance in some of our specimens is any thing but the decayed surface of the subjacent moss.

Lecanora pezizoides and *Lecidea coronata* have been so much confounded, that some difficulty attends the distribution of the synonyms. *Lichen brunneus*, *Engl. Bot. t.* 1246, represents the *Lecidea*, but not very satisfactorily, the accessory nature of the thallodal margin to the patellula not being well expressed. In the description Smith seems to have had the *Lecanora* in view, as well as in the *Spec. char.* from which that of *Lecidea coronata* in *Brit. Fl.* is professedly modelled; and *L. coronata* of Taylor, in Mackay's *Fl. Hibern. pt.* 2. *p.* 127, belongs, in part at least, to *Lecanora pezizoides*.

We refer the following synonyms, in chronological order, to

LECIDEA CORONATA.

Psora coronata. *Hoffm. Pl. Lich. v.* 3. *fasc.* 2. 3. *t.* 56. *f.* 1. (bad.)
Lichen coronatus. *Ach. Prod.* 75.
Lichen granulosus. *Dicks. Crypt. fasc.* 4. 23*.
Parmelia brunnea *var.* coronata. *Ach. Meth.* 186.
Lichen brunneus. *Engl. Bot. t.* 1246. (not good.)
Lecanora brunnea *var.* coronata. *Ach. Lich. Univ.* 419. *Syn.* 194.
Parmelia triptophylla, *a.b. Fries, Lich. Eur. Reform.* 91.
Lecidea coronata. *Hook. Brit. Fl. v.* 2. 182. β. *Hook. Brit. Fl. l. c.*
Lichen escharoides. *Engl. Bot. t.* 1247. (*excl. syn. Ach.*)

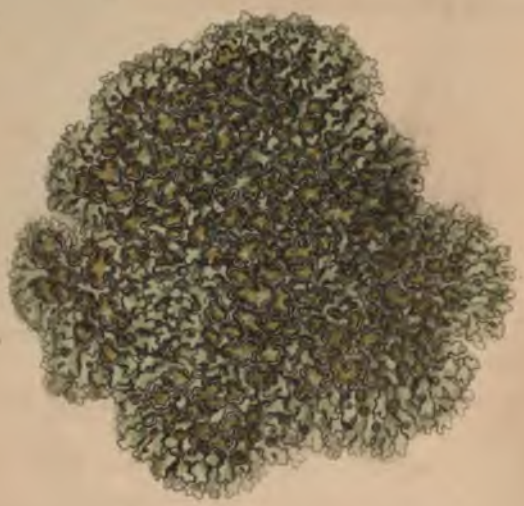
Fries regards as belonging to the same species with this plant, *Lecidea triptophylla*, *Collema nigrum*, and *Collema velutinum* of Acharius.

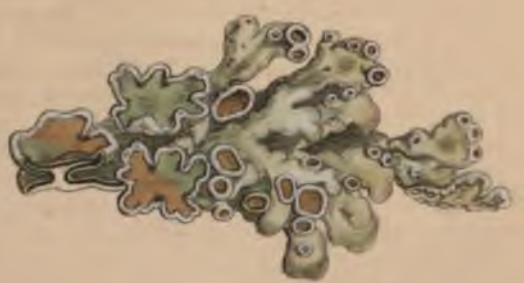
The patellulæ of *L. coronata* frequently acquire a spurious margin from the granules of the thallus, among which they are often partially immersed; but examination proves it different from the genuine thallodal margin in *Lecanora pezizoides*. The bluer hue of the thallus, which forms wide continuous patches, and its looser and more powder-like appearance, from the minuteness of the component scales or granules, further distinguish it. An inconsiderable substratum of bluish-black fibres is discoverable, especially

* Acharius is probably correct in referring *Verrucaria granulosa Hoffm.* to the same species as *Lichen quadricolor Dicks.* The figure, *Pl. Lich. t.* 30. *f.* 3. is bad for either species

when the plant is found on a firmer surface than the loose sandy soil on which it most usually occurs. It is not unfrequent in Sussex, and is probably a common species. Is not *Lichen spongiosus* E. B. t. 1374, made up of the thallus of *Lecidea coronata*, and young plants of *solorina saccata*?

W. B.





PARMELIA cartilaginea.

Cartilaginous Parmelia.

CRYPTOGAMIA Lichenes.

GEN. CHAR. *Scutellæ* formed from the thallus, affixed by a central point, the circumference free. *Disk* of a different substance from the margin.

SPEC. CHAR. Thallus cartilaginous, imbricated, greenish-grey; underside pale and naked; segments many-cleft, linear, flabelliform. Scutellæ dilated, flattish, lobed; margin slightly elevated, narrow; disk buff.

SYN. Parmelia cartilaginea. *Ach. Meth.* 184. *Fries, Lich. Eur. Reform.* 112.

Lecanora cartilaginea. *Ach. Lich. Univ.* 415. *Syn.* 191.

Squammaria cartilaginea. *De Cand. Fl. Fr. v.* 2. 376.

Lichen cartilagineus. "*Swartz*" *Ach.* "*Nov. Act. Stockh. v.* 16. *t.* 5. *f.* 4." *Prod.* 97. *Wahl. Fl. Suec.* 812.

KINDLY sent by the Rev T. Salwey, who discovered it in September, 1835, near the outlet of Llyn Bodlyn, among the mountains above Barmouth, on a large mass of rock upon the shore. Although it has been hitherto unpublished as British, a specimen communicated by Mr. Alexander, from Yorkshire, was in the possession of the late celebrated Mr. Dickson more than thirty years ago.

Thallus spreading from a centre in round pulvinate patches (in Mr. Salwey's largest specimen nearly 4 inches in diameter, and 4 or 5 lines thick in the middle). Segments crowded, imbricated, thickish, cartilaginous, rigid when dry, flexible when wet, irregularly linear, repeatedly and somewhat dichotomously divided, but so intricate that the mode of subdivision is for the most part hardly discoverable, with variously sinuated and flexuose edges, and slightly dilated extremities, which are occasionally incrassated; internal substance white, with a green layer near the surface; upper surface smooth, unpolished, pale greenish grey, scarcely

changed by moisture; underside without fibres, rugged, sometimes white towards the edges of the patch, but usually tinged there with flesh-colour, and dark brown in the central parts. Scutellæ numerous all over the patch except the edges, bursting from the disk of the segments, soon losing the circular figure, becoming first crenate, then irregularly and deeply lobed, and acquiring the width of a line or two, much exceeding that of the segment of the thallus from which they spring, and which then rises into a sort of stalk beneath them: disk flat or irregularly convex or concave, according to the flexure of the cup; when wet nearly of the same hue as the thallus, or pale with a livid tinge; when dry, straw-yellow, becoming darker and browner by long keeping; margin persistent, slightly raised, narrow, inflexed. The substance of the disk is thin, and often falls out, (or is perhaps devoured by insects,) the cup then assuming the appearance of a rounded sinuated portion of thallus, with raised inflexed edges, from which other scutellæ sometimes burst forth.

The generic arrangement of Lichens is as yet in a very unsettled state, but this is obviously a *Parmelia* according to the *Gen. char.* adopted above. Its nearest British affinity is *Lecanora saxicola* of Acharius, figured in *Engl. Bot. t.* 1695. It was first called *cartilagineus* in a chemical paper by Westring in *Nov. Act. Stockh.* for 1791, under the mistaken idea that it was *Lichen cartilagineus* of Lightfoot, which is *Lichen crassus* of Hudson, and *Engl. Bot. t.* 1893. —W. B.

August 1st 1837.

ALLIUM ambiguum.

Bulb-bearing rose-coloured Garlic

HEXANDRIA Monogynia.

GEN. CHAR. *Perianth* free, petaloid, 6-sepalled, persistent. *Stigma* simple. *Capsule* triquetrous, three-celled, mostly three-seeded. Inflorescence terminal, umbellate, furnished with a 2-leaved spatha.

SPEC. CHAR. Scape naked. Leaves linear, acute, channelled. Umbel loose, bulbiferous. Spatha turbinate, short, 3—4-lobed. Sepals oval-oblong, obtuse, slightly notched, and somewhat connivent. Stamens simple about half the length of the sepals.

Syn. Allium ambiguum. *Sm. Prodr. Fl. Græc. v.* 227. *Fl. Græc. t.* 327. *G. Don in Wern. Mem. v.* 5. 75.

A. incarnatum. *Horn. Hort. Hafn.* 323. *Spreng. Syst. v.* 2. 35.

A. Tenorii. *Spreng. Syst. v.* 2. 35.

A. cirrhosum. *Ranch. Nomencl.* 74.

A. roseum β. *Bot. Mag. t.* 978. *Guss. Prodr. Fl. Sic. v.* 1. 400.

Moly angustifolium campanulatum, flore roseo, nodosum. *Cupan. Panph. v.* 2. *t.* 219.

M. angustifolium, foliis contortis. *Tourn. Inst.* 385.

M. angustifolium, foliis reflexis. *Bauh. Pin.* 76. *Mor. Hist. v.* 2. *Sect.* 4. *t.* 16. *f.* 11.

M. serpentinum. *Ger.* 185. *Park. Parad.* 142. *Lob. Icon. t.* 160.

THIS pretty species of Allium is added to our Flora on the authority of John Alexander Hankey, Esq., who discovered it in June of the present year (1837), growing in

a patch of considerable size on the internal slope of a sea wall on the Medway, a little above Rochester, and on the same side of the river, whence he kindly sent us the specimens from which our drawing was made.

Bulb white, about half an inch in diameter, producing numerous small ones at its base, by which the plant is rapidly propagated. Scape cylindrical, smooth, from a foot to a foot and a half in height, leafy at the base. Leaves linear, acute, incurved, channelled, and glaucous above, keeled and green beneath; the margins rather scabrous. Spatha short, turbinate 3—4-lobed, the lobes ovate, pointed. Umbel loose, about 8—10 flowered, bulbiferous; bulbils crowded, ovate, purplish. Flowers somewhat campanulate, drooping, pale pink. Pedicles slender, filiform, an inch long. Sepals oblong-elliptical, obtuse, slightly notched and crenulate at the apex. Stamens about half the length of the sepals. Filaments awl-shaped, white. Style filiform, white, not surpassing the stamens. Stigma obtuse.

This species, as well as *A. roseum*, appears to be almost exclusively confined to the South of Europe, being common in fields and waste grounds in Italy and Sicily; and as the plant is an old inhabitant of our gardens, we fear it can hardly be regarded as indigenous. It has been often confounded with *A. roseum*, and by many botanists, and amongst others Gussone, it is still regarded as a variety of that species, which is chiefly distinguished by its broader leaves, more crowded umbels, destitute of bulbils, and by its broader entire sepals of a richer hue.—D.D.

August 1st 1837.

POLYGONUM maritimum.

Sea Knot-grass.

OCTANDRIA Trigynia.

GEN. CHAR. *Cal.* of 5 persistent segments. *Cor.* 0. *Stam.* 5—8. *Styles* 2—3. *Fruit* a one-seeded compressed or trigonous nut, with a lateral embryo, and the cotyledons linear-oblong.

SPEC. CHAR. Stem procumbent, woody below; ochreæ 2-lobed, lanceolate, at length torn, with numerous branched nerves; leaves lanceolate, coriaceous; flowers axillary; fruit very smooth and shining, much longer than the peryanth.

SYN. Polygonum maritimum. *Linn. Sp. Pl.* 519. *Willd. Sp. Pl.* 2. 449. *Bot. Gall.* 1. 405. *Lois. Fl. Gall. ed.* 2. 1. 283. *Host. Fl. Aust.* 1. 483. *Meisn. Mon. Polyg. Prod.* 89. *Reich. Fl. Germ. excurs.* p. 584. *Bab. in Linn. Trans.* 17. 457.

THIS most interesting addition to the British Flora was discovered by my friend Mr. Borrer on the sandy shore between Christchurch Head and Muddiford in Hampshire, and I have received it from Herm Bay in the isle of Jersey, gathered by Mr. W. C. Trevelyan. It is not uncommon upon the coasts of the South of Europe.

The root, which descends deep into the loose sand, and the lower parts of the stem, are woody; the branches much

divided, round, and striated; the internodes are short, usually not equalling the leaves, which are alternate, lanceolate, generally acute, coriaceous, and their margins revolute; the ochreæ membranous, two-lobed, at length much torn, about equal to the internodes, with numerous nerves branching at their base; the flowers are axillary, 2 or 3 together, large; the fruit triangular, longer than the peryanth, quite smooth and shining.

It is perennial, flowering throughout the summer. The specimens drawn were communicated by Mr. Borrer from the Hampshire station mentioned above.—C. C. B.

August 1st 1838.

POLYGONUM Raii.

Raian Knot-grass.

OCTANDRIA Trigynia.

GEN. CHAR. *Cal.* of 5 persistent segments. *Cor.* 0. *Stam.* 5—8. *Styles* 2—3. *Fruit* a one-seeded compressed or trigonous nut, with a lateral embryo and the cotyledons linear-oblong.

SPEC. CHAR. Stem procumbent, herbaceous; ochreæ 2-lobed, ovate acute, at length torn, with few unbranched distant nerves; flowers axillary; fruit very smooth and shining, much longer than the peryanth.

SYN. Polygonum marinum. *Ray Syn.* 147. (Excl. Syn.)
P. aviculare β maritimum. *Huds. Fl. Ang.* 1. 171. (Excl. Syn.) *Sm. Eng. Fl.* 2. 238.
P. Roberti. *Lois. Fl. Gall. ed.* 2. *t.* 1. 283.?
P. aviculare β. *Hook. Brit. Fl. ed.* 3. 185.
P. Raii. *Bab. in Linn. Trans.* 17. 458.
P. acetosum, *Hook. Comp. of Eng. Flora, ed.* 2., not Biberstein *Fl. Tauro-Cauc.* 1. 304.

THIS plant, which has been considered as a variety of *P. aviculare*, may always be distinguished from that species by observing the fruit, which in this is always quite smooth and shining, and protruded far beyond the peryanth. In all the varieties of *P. aviculare* it is found to be granulate-striate and quite hidden by the peryanth. Our plant has its ochreæ two-lobed, ovate, acute, entire when young, much shorter than the internodes, and having about two distant unbranched nerves. The leaves are lanceolate, with the margins of the younger ones revolute. The stem prostrate, not much branched, ribbed, often spreading for several feet over the loose sand, in which it always grows.

There is a maritime variety of *P. aviculare* which exactly resembles this plant in appearance, but its fruit differs totally.

Since the publication of my paper in the Linnean Transactions, I have ascertained that *P. Roberti* is described as above quoted, but the characters given are not sufficient to distinguish it from *P. aviculare*. Through the kindness of my friend Mr. Woods, I have been enabled to examine the specimens which he supposed to be the plant of Loiseleur. One of them, more particularly marked as authentic, is only the maritime form of *P. aviculare*, to which I am also inclined, in accordance with the opinion of Reichenbach (*Fl. excurs. p.* 573), to refer *P. littorale* of Link, the description of which, in *Ent. Fl. Hort. Berol.* 1. 385, is far from being distinctive, the fruit not being mentioned.

Another of Mr. Woods's specimens, gathered at Toulon and named in pencil *P. Roberti*, is a far more woody plant than ours, with broader and shorter leaves; its fruit also, although shining, is granulated transversely and scarcely longer than the peryanth. Under these circumstances I have quoted Loiseleur's plant with doubt, more especially as he considers it to be perennial, ours being only annual.

Sir W. Hooker has lately referred our plant to *P. acetosum* of Marsch. Beiberstein, but it does not agree with the description of that plant, which is said to have veinless leaves, shorter stems than *P. aviculare*, the lobes of its ochreæ with short teeth, and an acid taste. I have not been able to see a specimen. It is a native of the neighbourhood of Astrachan and the moving sands near the Caspian Sea.

Our plant has occurred between Marazion and Penzance; near Muddiford, Hampshire, from whence the specimens figured were obtained by the favour of Mr. Borrer, near Barmouth, between Abermenai and Llanddwyn in Anglesea; on Killiney and Portmarnock sands near Dublin; in Galloway; and on the coast of Ayrshire.

C. C. B.

August 1st 1857.

HABENARIA bifolia.

Smaller Butterfly Orchis.

GYNANDRIA Monandria.

GEN. CHAR. *Flower* ringent. *Lip* spurred. *Glands* of the pollen masses naked, distant. *Ovarium* twisted.

SPEC. CHAR. Spur twice as long as the ovarium, subclavate; lip linear, entire; the upper petals connivent, obtuse. Anther oblong, truncate, with its cells parallel.

Syn. Habenaria bifolia. *Bab. in Linn. Trans. v.* 17. 463.

Platanthera bifolia. *"Richard" Koch. Syn. Fl. Germ.* 690.

Pl. bifolia, var. brachyglossa. *Lindl. Syn. ed.* 2. 330. *Orchid.* 285.

Pl. brachyglossa. *Reich. Icon. t.* 852. *Fl. Excurs. No.* 817. *b.*

Orchis bifolia. *Linn. Herb.—Sp. Pl.* 1331. *Huds. Fl. Ang.* 333. *Sw. in Sven. Bot. t.* 314.

O. bifolia β. *Sm. Herb.; Fl. Brit. v.* 3. 918. *Eng. Fl. v.* 4. 9.

O. alba bifolia minor calcari oblongo. *Ray, Syn. ed.* 2. 238.

Satyrium bifolium. *Wahl. Fl. Suec.* 558.

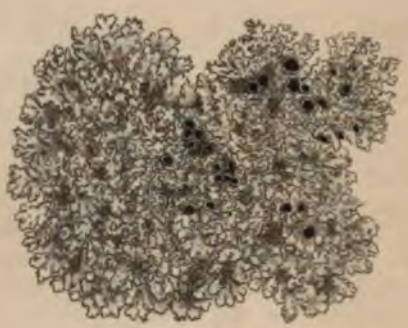
A careful examination of the Linnæan Herbarium has proved that this plant is the true *O. bifolia* of the *Sp. Pl.* and the species published under that denomination in *Eng. Bot. t.* 22. is now universally considered distinct, and has received the name of *H. chlorantha.*

The tubers of the root of our plant terminate each in a long fibrous point. Stem angular, rising from two or rare-

ly three, spreading, oblong, radical leaves, which are much more bright and shining than those of *H. chlorantha*. The bracteas lanceolate, about as long as the germen, one to each flower, and several larger ones, which sometimes take almost the appearance of leaves, scattered upon the stem. Flowers much smaller than in *H. chlorantha*, the two upper petals converging. The anther truncate or slightly emarginate, rarely somewhat rounded at the top, its cells nearly parallel throughout their whole length ; the central line between the cells is a deep furrow in front and a keel behind. The stigma rather broad, truncate, folded so as to leave a channel between its pointed lobes, the middle emarginate.

In *H. chlorantha* the anther is very large, and the bases of the cells are twice as far apart as their tops; the central line between the cells is elevated into a prominent keel in front and is grooved on the back ; the stigma is very broad, slightly pointed in the middle, and curved into a semicircular form. In all these points it differs totally from our present subject. There is a third plant, found in Germany, which has a hooded anther with parallel cells, and its upper petals not converging. This is the *H. fornicata*, *Bab.* in *Linn. Trans. v.* 17. *p.* 463. and *Pl. bifolia*, *Reich. Icon. Cent.* 9. *p.* 19. *t.* 851. *Fl. Excurs. No.* 817. and will probably soon be detected in Britain.

Our plant is far less common than *H. chlorantha*. It has been noticed upon Moushold Heath near Norwich, by Sir J. E. Smith ; in open parts of Epping Forest by Mr. E. Forster ; Treborth near Bangor, Caernarvonshire, by Mr. J. Roberts ; and in heathy parts of the Sussex Forests abundantly. It flowers rather later than *H. chlorantha*, and is in perfection about the middle of June.—C. C. B.



Dec.1st 1837.

PARMELIA erosa.

Toothed-edged Stellated Parmelia.

CRYPTOGAMIA Lichenes.

GEN. CHAR. *Scutellæ* formed from the thallus, affixed by a central point, the circumference free. *Disk* of a different substance from the margin.

SPEC. CHAR. Thallus leafy, imbricated, pale greenish grey, greyish white when dry; underside white, with pale fibres; segments much divided, rounded, with minutely jagged edges. Scutellæ orbicular, flattish; margin slightly elevated; disk black.

SYN. Lecanora tribacia *in part.* *Ach. Lich. Univ.* 415. *Syn.* 191.
Squamaria tribacia *in part.* *Hook. Brit.Fl.* 194.

ON trunks of old trees, particularly elms, on tiled roofs, and on walls, not unfrequent in Sussex, and probably in other parts of Britain, having been found as far north as the Connel Ferry in Argyleshire; but the apothecia are extremely rare. Two or three of them occurred many years ago on a pear-tree at Hurst Pierpoint, and the specimen was sent to Sir J. E. Smith, in whose collection it has since his death been sought for in vain. Dr. Taylor has observed them at the Dargle on Scotch Fir, and mentions the plant in *Fl. Hibern.*, under *P. tenella*, as the Acharian *var.* γ *exempta* of that species, but in all probability distinct; and Mr. Salwey has found a few on old specimens, one of which is here figured, at Llanaber, near Barmouth. Acharius expressed his intention to adopt the name suggested to him, and now first published, but he subsequently joined the plant with a Swiss Lichen, which, from his description of the scutellæ*, seems to be in fact quite different, under

* "Orbiculata thallo arcte adnata, sed mox dilatata magna et irregularia in ambitu lobato-crenata, disco semper plano pallide flavescente et margine thallode tumidiusculo elevato persistente albo crenas et lobos apothecii semper coronante cincto."—*Lich. Univ. l. c.*

the name of *Lecanora tribacia*, and his *spec. char.* is adopted for *Squamaria tribacia* in the *Brit. Fl.*

Thallus radiant and roundish in young distinct plants; but mostly found in large, irregular, crowded imbricated patches. Substance thin, green within; surface to the naked eye even, under a glass minutely granulated, grey with a pale tinge of green when wet, grey-white or somewhat lead-coloured, especially at the edges when dry; underside white, brownish in the central parts, attached by short pale fibres, which are usually not very numerous. Segments much divided, imbricated and entangled, variously sinuated; flat or slightly convex where free at the edges of the patch; elsewhere for the most part ascending from mutual pressure; the ultimate lobes rounded, with decurved, minutely jagged, crenulate or granulated edges. Sometimes the edges are raised, and, producing mealy granules on the underside, assume, although not hollow, an appearance approaching to that common in *P. tenella*. There are no soredia on the surface. Scutellæ not larger than rape-seed, but little elevated, orbicular; the margin rounded, and, on Mr. Salwey's specimen, mostly entire, but in one instance showing a tendency to become leafy; disk black.

Nearly allied to *P. cæsia. t.* 1052; but, besides the peculiarity of the edges, the segments are broader and more imbricated, and the globular soredia are wanting, nor is there anything like the copious superficial granulations of another related Lichen, *P. Clementi, t.* 1779. The shields have not the blueish surface observable in the two species last-mentioned, and in *P. stellaris* and others of the same section; but we have seen too little of them to answer for the constancy of this difference.—W. B.

Dec.r 1st 1832.

PARMELIA isidioides.

Isidium-like Parmelia.

CRYPTOGAMIA Lichenes.

GEN. CHAR. *Scutellæ* formed from the thallus, affixed by a central point, the circumference free. *Disk* of a different substance from the margin.

SPEC. CHAR. Thallus of minute greenish-grey scales, white when dry, with branched cylindrical segments. Margin of scutellæ thick, rugged; disk purplish black.

AN exquisitely beautiful little Lichen, of which we know nothing except from the communications of the Rev. T. Salwey, who found it, in 1835, "upon one tree in an open grove in Cwm Bychan, about two miles above Llanbedr, near Barmouth." The only doubt that has occurred is whether it may not possibly be an extraordinary state of *Parmelia Clementi*, *t.* 1779. The resemblance of the apothecia to those of that Lichen and of *P. erosa*, *t.* 2807, require it to be referred to the same genus. Mr. Salwey suggested the very appropriate trivial name.

Thallus scattered over mosses, and appearing to the naked eye a mere greyish-white mealiness, greenish when wet, among which the scutellæ are barely perceptible. A glass of considerable power shows it to consist of minute scales, branching out into, or formed by the confluence of, little cylindrical or slightly compressed segments, perfectly resembling the podetia of an *Isidium* or young *Sphærophoron*, varying in position from decumbent to ascending and erect, some nearly simple, others more or less copiously

branched; the subdivisions irregular, parallel, or spreading, marked with constrictions, and frequently tipped with a brownish speck. Scutellæ not numerous, solitary, or in little clusters, slightly elevated, with a contracted base; disk thick, flat, or somewhat concave, dull purplish or brownish black, the surface minutely rugged; margin tumid, more or less inflexed, sometimes but little uneven, sometimes crenulate, beaded, or, in old shields, beset with minute ramuli similar to those of the thallus. The disk has occasionally, when dry, an appearance like a proper margin within the thalloidal one.—W. B.

FEDIA Auricula.

Round-fruited Corn Salad.

TRIANDRIA Monogynia.

GEN. CHAR. *Corolla* superior, five cleft, gibbous at the base. *Fruit* one seeded, without a feathery crown.

SPEC. CHAR. Barren cells two, contiguous; crown erect, of one membranous leaf. Flowers distant. Upper leaves inciso-dentate at the base.

SYN. Fedia Auricula. *Woods in Tr. of Linn. Soc. v.* 17. 431. *t.* 21. *f.* 15. *Hooker Brit. Fl. ed.* 3. *v.* 1. 24. *Mertens & Koch, Deut. Fl. v.* 1. 400. *Reich. Ic. t.* 63.

Valerianella Auricula. *Fl. Fr. v.* 5. 492. *De Cand. Prod. v.* 4. 627. *Dietrich in Sp. Pl. ed.* 6. *v.* 2. 655.

V. olitoria, as to the magnified dissections. *Fl. Lond. ed.* 2. *v.* 1.

β. Calyx larger, more evidently divided, permanent.

Fedia tridentata. *Reich. Ic. t.* 64.

Valerianella tridentata. *Dietrich in Sp. Pl. ed.* 6. *v.* 2. 656.

V. dentata. *De Cand. Prod. v.* 4. 267 ?

OUR specimens of this plant were gathered in Ore Lane, near Hastings, where it was discovered by Dr. Bromfield. It had previously been observed by the Rev. R. F. Bree, at Landulph, in Cornwall; and has since been noticed by the Rev. Mr. Billingsley, at Upper Slaughter in Gloucestershire; by Mr. Borrer, at Torquay, and at Combe Martin in Devonshire; and by Mr. Babington at Oughterard, in Galway, and in the Island of Jersey. The *Valerianella serotina elatior flore albo semine turgidiore* of Morison, *Hist. Ox. Sect.* 7. *t.* 16. *f.* 37., quoted by Ray in the Synopsis, p. 201, and said to have been found "in the corn-fields, between Ore

and the foot ferry to Sheppey Isle, in Kent, and also in the third or fourth field on the right hand of the road going from London Coney towards St. Albans," seems to belong to this plant, although referred by Dietrich to *F. pumila*. It is perhaps not a rare plant with us, but the species of this genus are so much alike in habit, and the one before us, in particular, so much resembles *F. dentata* in its general appearance, that we need not wonder that it has been overlooked till lately.

Root slender, annual; stem erect, angular, and even sometimes winged, the angles furnished with deflexed hairs or bristles. Leaves with a finely serrulate margin, oblong; the lower somewhat obovate and attenuate downwards, generally entire, but sometimes having a few distant obtuse teeth fringed at the base: upper oblong, not attenuate, inciso or even pinnatifido-dentate at the base. The segments acute. As far as the stem is undivided, the leaves are more or less connate, but at and above the first division they are usually quite separate. Panicle repeatedly dichotomous. Flowers whitish or inclining to pink, sessile in the upper forks of the panicle, the lower widely separate, hardly opening till towards the end of June. Upper bracteas scariose, spreading, ovato-lanceolate and acute, or linear and obtuse, serrato-ciliate, often with one or two large teeth. Fruit subglobose, somewhat tapering into the calyx, marked with a narrow continuous channel between the two empty cells, furnished with three ribs, one on each empty cell and one on the back of the fertile one. Under a good magnifier the surface of the fruit appears finely granular. In the primary variety the calyx is small and of a single leaf, quite entire or only with a minute tooth on each side, and withering as the fruit advances to maturity: in the variety β, which seems to be the most common, each rib of the fruit terminates in a distinct division of the calyx, the one proceeding from the dorsal rib being much the largest, and often terminating in three teeth; and even the lateral divisions are sometimes bidentate. The whole calyx is firmer and more persistent than in α.—J. Woods.

Dec.ª 1.ª 1807.

FEDIA carinata.

Boat-seeded Corn Salad.

TRIANDRIA Monogynia.

GEN. CHAR. *Corolla* superior, 5 cleft, gibbous at the base. *Fruit* one-seeded, without a feathery crown.

SPEC. CHAR. Barren cells 2, contiguous in their whole length. Fruit oblong, boat-shaped, with a simple blunt crown. Flowers in heads. Upper leaves sometimes toothed at the base.

SYN. Fedia carinata. *Woods in Tr. of Linn. Soc. v.* 17. 430. *t.* 21. *f.* 26, 27. *Hooker Brit. Flora in addit. to v.* 1. *ed.* 3. *Mertens & Koch, Deut. Fl. v.* 1. 399. *Reich. Ic. t.* 61.

Valerianella carinata. *Loisel. Not.* 149. *De Cand. Prod. v.* 4. 629. *Dietrich in Sp. Pl. ed.* 6. *v.* 2. 658.

THE Lamb's Lettuce of the gardens seems very often to belong to this species; and perhaps our specimens, which were gathered by Mr. Forster at Marden Ash, near Ongar in Essex, may have escaped originally from cultivation. Mr. Leighton has found it in Long Lane Quarry near Cheney Longville in Shropshire, and Mr. Babington has lately detected the species in the Isle of Jersey. It is very abundant in Normandy, where it may be found early in May, occupying the places taken by *F. olitoria* a little later in the season.

Root slender, annual. Stem dichotomous almost from the base, erect, angular. The angles furnished more or less with deflexed hairs or points, especially towards the base. Leaves fringed with minute teeth, the lower somewhat spatulate, quite entire, the upper oblong, occasionally with a few blunt teeth. Upper bracteæ spreading, blunt ciliate, not scariose at the tip. Flowers bluish, crowded into heads. Fruit oblong, in shape much resembling a grain of wheat,

except that the fertile cell by projecting beyond the barren ones forms to it something of a border. The channel in front is broader, deeper, and more open than in *F. Auricula*. In this genus the position of the fruit is such as to throw the back against one branch of the dichotomous panicle and the front towards the other, not one side towards each, as appears to be the case in the Caryophylleæ. There are two empty cells with a fine rib or nerve on each. The projection of the fertile cell forms a small tooth at the extremity of the fruit, but there is nothing which can be called a calyx. These particulars are amply sufficient to distinguish this plant from *F. Auricula*, while the total want of the corky mass at the back of the seeds readily separates it from *F. olitoria*, which in habit it closely resembles.—J. W.

POLYGONUM dumetorum.

Climbing Thicket Buckwheat.

OCTANDRIA Trigynia.

GEN. CHAR. *Cal.* of 5 persistent segments. *Cor.* none. *Stam.* 5—8. *Styles* 2—3. *Fruit,* a one-seeded compressed or trigonous nut, with a lateral embryo, and the cotyledons linear-oblong.

SPEC. CHAR. Stem twining, striated; ochreæ short, rather acute; leaves triangular, cordate; racemes axillary, elongated; pedicles long; fruit triquetrous, very smooth and shining, covered by the persistent broadly-winged perianth.

SYN. Convolvulus niger. *Dodon. Pempt.* 396. *f.* 1. (good).

P. dumetorum. *Linn. Sp. Pl.* 522. *Flora Dan.* 756. *Willd. Sp. Pl.* 2. 455. *Bot. Gall.* 1. 408. *Gaud. Fl. Helv.* 3. 48. *Meisn. Mon. Polyg. Prod.* 63. *Reich. Fl. Germ. excurs.* 574. *Bab. in Linn. Trans.* 17. 459.

Fagopyrum membranaceum. *Gray. Nat. Arr.* 2. 272?

THIS plant has probably been passed over by most English botanists as a rampant variety of the common *P. Convolvulus*, but although specimens of the latter do sometimes occur in which the calyx is more or less winged, and the whole plant approaches *P. dumetorum* in size, yet there can never be any difficulty in distinguishing them, if due attention be paid to the fruit. In *P. Convolvulus* the fruit is rough, with minute elevated points and not shining, it is also much broader in proportion to its length and the faces are far less concave. (See the figures on the left hand.)

Our plant is annual, flowering in September. It has a stem 5 or 6 feet high, twining round the bushes and ram-

pant herbage amongst which it usually grows, and has a very beautiful appearance from the dense masses of flowering racemes, closely twining upon each other, with which its stems are terminated. The stem is round, striated, branched, and nearly smooth; the leaves are alternate, stalked, and triangularly cordate; the ochreæ rather short and acute; the racemes axillary and terminal, lax and elongated; the flowers subverticillate, upon long stalks which are jointed at about their middle, and when in fruit much elongated and reflexed; the fruit is triquetrous with very concave faces, oblong, quite smooth and shining, covered by the very broadly winged persistent enlarged perianth which is shorter than its stalk.

This plant was discovered by Mr. J. A. Hankey, in a wood at Wimbledon, and I noticed it myself in September last, (1836), in great plenty in a thicket at about one mile west of Keynsham, Somerset, exactly upon the line of the Great Western Railway. The specimen figured was communicated in the same year by Mr. Luxford, from near Ryegate, on the right hand side of the road to Waltham Mill.

C. C. B.

SPARTINA alterniflora.

Alternate-flowered Cord-grass.

TRIANDRIA Digynia.

GEN. CHAR. "*Spike* compound. *Calyx* of two opposite lanceolate, compressed, unequal, acuminate valves, one-flowered. *Corolla* of two compressed rather unequal lanceolate valves. *Styles* united (or cohering) half-way up. *Seed* free." *Smith. Hooker.*

SPEC. CHAR. Spikes numerous, coarctate; flowers glabrous; larger calyx-glume with strong lateral nerves. Leaves continuous with the sheaths, longer than, or equal to, the flower-spikes, dilated at the base; lower ones persistent. Rachis much produced beyond the terminal floret of each partial spike into a flexuose awn-like point.

SYN. "Spartina alterniflora. *Loisel. Fl. Gall. v.* 2. 719. (1817.)

"S. glabra. *Mühl. Gram.* 54. (1817.)

"S. lævigata. *Link Jahrbuch. v.* 3. 92. (after 1820.)

"Dactylis maritima. *Walter. Carol.* 77. (fide Mühl.") *Bigelow, Hooker, loc. infra cit*. Fl. Boston.* 25. (descr. bona.)

THE present species of Spartina, well known as a native of North America, was detected many years ago on the banks of the Adour near Bayonne, and in 1836, in the utmost profusion, on the vast mud banks of the Itchen and

* For a more detailed account of the history and uses of *Sp. alterniflora*, see a paper on this subject by myself in the *Companion to the Botanical Magazine, v.* 2. *p.* 254.

Southampton rivers, where it flowers throughout the months of August and September.

A strong reed-like grass with a very fetid odour resembling that of phosphuretted hydrogen. Root perennial, creeping, with very long jointed runners, and densely matted fibres at the crown. Culms one or more from the same root, mostly quite upright, or very slightly ascending, from eighteen inches to two or three feet in height, clothed for some distance upwards with the withered persistent leaves of earlier growth. Leaves a foot or more in length, six to ten lines in breadth, alternate, rather rigid and erect, quite flat to within an inch or two of the point, where the edges are involute, of a bright pleasant green; the uppermost, and often that immediately below it reaching beyond the flower-spikes, more rarely equalling the latter, but never shorter*. No distinct articulation of the leaf with its sheath as in *S. stricta*, so that it is not disposed to separate in decay, as is invariably the case in the latter, the lower leaves of which are deciduous, while on the other hand those of *S. alterniflora* are of necessity as constantly persistent. In our present species too the bases of the leaves are suddenly expanded into their full breadth, and do not taper gradually into the sheath. Ligule extremely short. Spikes four to thirteen, mostly six or eight, closely united into a dense, coarctate, compound spike, or rather panicle. Florets like those of *S. stricta*, but devoid of all pubescence, except occasionally and in a slight degree. Larger calyx-glume with about three strong lateral ribs. Rachis considerably produced beyond the terminal floret into an awn-like point. Anthers at first pale yellowish white, afterwards brown. Styles cohering (not truly united) for a great part of their length. Seed oblong, seldom or never perfected.

The greatly larger size, more fibrous root, numerous spikes, unjointed leaf bases, strongly ribbed calyx, the produced rachis, and the leaves exceeding the flower-spikes in length, added to the brighter hue of the whole plant, are so many marks to distinguish *Spartina alterniflora* from our other British species. In spite of its rank smell, it is greedily devoured by pigs and horses, and is extensively used both as litter for cattle and for thatching by the poorer classes at Southampton.—Wm. Arnold Bromfield, M.D.

* Excepting in young immature specimens.

March 1st 1834

ALLIUM sphærocephalum,
Round-headed Sand-Garlic.

HEXANDRIA Monogynia.

GEN. CHAR. *Perianth* petaloid, campanulate or patent, 6-sepalous. *Filaments* of the stamens all subulate, or the alternate ones trifid. *Capsule* trigonous.

SPEC. CHAR. Scape leafy below. Leaves subcylindrical, channelled above, smooth, fistular. Spatha 2-valved. Umbel globular, without bulbils. Stamens twice as long as the perianth; the alternate ones 3-cleft. Capsule obtusely trigonous. Bulb accompanied by stalked offsets.

SYN. Allium sphærocephalum. *Linn. Sp. Pl.* 426. *Host. Fl. Aust. v.*1. 423. *D.C. Bot. Gall. v.*1. 468. *Gaud. Fl. Helv. v.* 2. 479. *t.* 10. *f.* 3. *Loisel. Fl. Gall. v.* 1. 249. *Bluff et Fing. Comp. ed.* 2. *v.* 1. 613. *Nees ab Esen. Icones Floræ Germ. (plate.)*

Porrum sphærocephalon. *Reich. Fl. Excurs.* 750.

THIS highly ornamental plant was first noticed in Jersey by Mr. J. Woods, in the summer of 1836. It occurs in great plenty upon the sandy ground adjoining St. Aubin's Bay, and varies from a few inches to nearly three feet in height. Its root is angular, and has usually several offsets attached to it by long slender filiform white fibres. The stem is round and leafy below. The leaves nearly round, but channelled above, smooth and hollow, often quite

withered before the flowers expand. Umbel many-flowered, spherical, dense, not producing bulbils. Spatha two-valved, white, pointed and shorter than the umbel. Flowers purple; sepals lanceolate with a darker scabrous keel, which is strongly marked in the three external and shorter petals, but obsolete yet still scabrous in the others; they are all obtuse, and distinct to their very base. The filaments of all the stamens distinct at their base, the three alternate ones three-cleft above their middle; all about twice as long as the perianth.

The specimens figured were gathered on the sandy slopes above St. Aubin's Bay, Jersey, July 25th, 1837, where it grows in company with *A. vineale*. It may be distinguished from that plant by its not producing bulbils amongst the flowers, and by the stalked offsets at the root. It is also pointed out at a considerable distance by its very handsome bright purple head of flowers. It is in perfection towards the latter end of July.—C. C. B.

March 1st 1834.

CAREX rupestris.

Rock Carex.

MONOECIA Triandria.

GEN. CHAR. *Flowers* diclinous, in a closely imbricated spike. *Scales* single-flowered. Male: *Perianth* none. *Stamens* 3. Female: *Perianth* monophyllous, capsular, persistent, contracted at the top, awnless at the base. *Stigmas* 2 or 3. *Nut* included within the enlarged perianth.

SPEC. CHAR. Spike solitary, androgynous, barren above, lax-flowered below. Fruit obovate, triquetrous, rostrate, with an entire mouth, scarcely larger than the obtuse or cuspidate scale. Stigmas 3.

SYN. Carex rupestris. *Allion. Fl. Ped. t.* 92. *f.* 1. *Willd. Sp. Pl.* 215. *Schk. t. N. n. n. n. f.* 200. *Wahl. Fl. Lapp.* 225. &c.

C. petræa. *Wahl. Act. Holm. ann.* 1803. 139. *Willd. Sp. Pl. v.* 4. 214. *Schk. t. K.K.K. f.* 139.

ROOT stout, creeping. Stem 3—8 inches high, acutely triangular, rough upwards, leafy below. Leaves a line broad at the base, rigid, flat, carinate, ending in a long, attenuate, tortuous, rough, triangular point, longer or shorter than the stem. Spike composed of from 3—6 lax female flowers below, and more numerous crowded barren ones above. Fruit obovate, rostrate, with an entire mouth, appressed, about equalling the subrotund, generally obtuse scales, the lower one of which is sometimes acute or cuspidate.

This species is found on the continent of Europe from the Alps to Lapland, in Arctic America, and on the Rocky Mountains. It was discovered in 1836 at the head of Glen Callater in Scotland, by Mr. Dickie and Mr. Templeton.

A specimen "*ex alpinis Norvegiæ*" from Wahlenberg in Sir W. J. Hooker's herbarium has the fruit rough at the edges. The specimens from the Rocky Mountains are large, with more numerous flowers; but I observe a European specimen in the herbarium of Mr. Jos. Woods of equal size, and Wahlenberg speaks of this species being the largest of its congeners. *C. attenuata*, *R. Brown in Franklin's Nar. App. p.* 750., an authentic specimen of which I find in Sir W. J. Hooker's herbarium, is a laxer plant with long leaves. It is in a very young state, but agrees, I think, essentially with the character of this species.—F. Boott, M.D.

Narcissus

CAREX leporina.

Small Ovate-Spiked Carex.

MONOECIA Triandria.

GEN. CHAR. *Flowers* diclinous, in a closely imbricated spike. *Scales* single-flowered. Male: *Perianth* none. *Stamens* 3. Female: *Perianth* monophyllous, capsular, persistent, contracted at the top, awnless at the base. *Stigmas* 2 or 3. *Nut* included within the enlarged perianth.

SPEC. CHAR. Spikelets 3, rarely 4, barren below, ovate, contiguous. Fruit elliptical, rostrate, planoconvex, nerved on both sides, with an emarginate, scarious, and finally entire mouth, scarcely larger than the ovate, obtuse scale. Stigmas 2.

SYN. Carex leporina. *Linn. Fl. Lapp. ed.* 2. 261. *Willd. Sp. Pl. v.* 4. 229. *Schk. t. F. f. f. f. fig.* 129. *Decand. Synop. Fl. Gall.* 140. *Schleich. Cat. Pl. Helv. exsic.*

C. Lachenalii. *Schk. t. Y.* 79.

C. lagopina. *Wahl. Act. Holm. ann.* 1803. 145. *Fl. Lapp.* 229.

C. approximata. *Hoppe.* (*non Allion.*) *Gaudin Agrost. Helv.* 107. *Thom. Cat. Pl. Helv. exsic.*

C. parviflora. *Gaudin Etr. de Fl.* 84. (*non Host.*)

STEM 4—8 inches high, triangular, smooth, rarely rough below the spikes as noticed by Gaudin. Leaves a line broad, shorter than the stem, carinate, rough at the margins

upwards. Spikes brown, the terminal one largest, the others sometimes all fertile. Bracteas broad, ovate, obtuse, the lowest aristate, rarely foliaceous, and longer than the spikelet. Fruit smooth, slightly nerved, with smooth margins, and a slightly bifid scarious mouth which in maturity appears entire. Scales scarious at the margin. Seed elliptic, plano-convex, pale yellow.

This species, first described by Linnæus in his *Fl. Lapponica*, was afterwards confounded in his *Fl. Suec. ed.* 2. and *Sp. Pl.* 1763, with *C. ovalis, Good:* whence the misconceptions that have prevailed about the original *C. leporina*. It is found on the Continent of Europe from the Alps to Lapland, and is a native of Greenland, Arctic America, the Rocky Mountains, and Mexico. It was discovered on rocks in Lochnagar, Scotland, in August 1836, by Mr. Dickie and Mr. Clark.—F. B.

March 1st 1838

MERCURIALIS ambigua.

Ambiguous Mercury.

DIOECIA Enneandria.

GEN. CHAR. *Perianth* tripartite. *Stam.* 9—16, with distinct globose cells. *Styles* 2. *Capsule* 2-celled, cells 1-seeded.

SPEC. CHAR. Annual. Stems with opposite branches. Leaves lanceolate, unequally serrated and ciliated. Barren and fertile flowers intermixed, in axillary whorls.

SYN. Mercurialis ambigua. *Linn. fil. Dec.* 1. *t.* 8. *Linn. Sp. Pl.* 1465. *Loisel. Fl. Gall. v.* 2. 350. *Reich. Fl. Excurs.* 764.

M. annua β ambigua. *Bot. Gall.* 417.

THIS plant is very nearly related to *M. annua*, from which it may be distinguished by the characters given above. It is a much more slender plant, its stems greatly branched and roundish, with two slightly prominent angles, not of an oval section, with two broad, prominent, somewhat flattened ridges upon the sides, as will be found to be the case in *M. annua*. Leaves lanceolate, rather thicker and more flaccid than those of *M. annua*, serrated and ciliated in an irregular manner. The flowers are axillary and whorled, the barren and fertile ones intermixed, each having its own proper pedicle; the barren flowers much less numerous than the others and usually placed below them. Fruit covered with stiff hairs arising from much enlarged pellucid bases. Two barren filaments are always present in the fertile flower; they exceed the styles, and when the fruit is full grown are about equal to it and lie concealed in the furrow

between its lobes. Sir J. E. Smith says that these filaments are wanting in *M. annua*, but I think that they may always be found by a minute examination of either flower or fruit. In that plant they are much shorter than in the species before us, not being more than half as long as the fruit; they are also much more slender.

Different as this plant appears from *M. annua*, I have still doubts concerning its specific distinction; and it is much to be wished that some botanist, who may have the requisite opportunities, would submit it to experiment in cultivation. Notwithstanding my doubts I think that it would be far from judicious to reduce it to a variety, as has been done by De Candolle, until such experiments have been carefully made.

I am informed by my friend Mr. Borrer, that this plant has recently been found in the Isle of Wight by Dr. Bromfield. Our specimens were gathered, July the 25th, 1837, in Jersey, where it frequently occurs upon waste stony land by road sides. It appears to flower throughout the summer.—C. C. B.

May 1st 1830.

NEOTTIA æstivalis.

Summer Ladies-traces.

GYNANDRIA Monandria.

GEN. CHAR. "*Sepals* coloured, and *petals* converging, parallel with the lip; *lip* shovel-shaped, unguiculate, with two fleshy projections at the base. *Column* taper, club-shaped, distinct, with 2 teeth at the apex. *Stigma* prominent, rostrate." *Lindley.*

SPEC. CHAR. Tubers cylindrical, elongate. Radical leaves linear-oblong; cauline narrowly lanceolate. Spike lax.

SYN. Neottia æstivalis. *Decand. Fl. Fr. v.* 3. 258. *Bot. Gall.* 448. *Host. Fl. Aust. v.* 2. 542. *Loisel. Fl. Gall. v.* 2. 273.

Spiranthes æstivalis. "*Rich.*" *Reich. Icon. cent.* 2. 337. *Fl. Excurs.* 127.

Ophrys æstivalis. *Lam. Dict.* 4. 567.

Epipactis *n.* 1294. *Hall. Hist. t.* 38.

THIS elegant plant, which is noticed by Sir J. E. Smith (*Eng. Fl. v.* 4. *p.* 36.) as not having been found in Britain, I had the pleasure of discovering in the island of Jersey on the 25th of July 1837. It grows in a wet sandy spot upon the banks of St. Ouen's pond, but is far from plentiful even there, and has not been gathered in any other part of the island. It may be distinguished from *N. autumnalis* (*Ophrys spiralis*, *Engl. Bot. t.* 541.) by its long upright leaves, slender tubers and lax spike.

Stem from 2 or 3 inches to a foot in height, slender,

downy and glandular above, bearing several narrowly lanceolate and usually adpressed leaves. The radical leaves are long, nearly linear, erect, glabrous: in strong specimens they are not all radical, but 1 or 2 of them are seated upon the lower part of the stem. Spike long, slender, lax, spiral, consisting of numerous white flowers, which are downy internally. Sepals lanceolate, acute, the 2 lateral ones spreading, the intermediate one incumbent upon, and closely attached to, the linear acute petals. Lip spathulate, acute, obscurely crenate, white with its base green. Column very slightly bifid at the point, acute. Operculum acute. Between the operculum and column, on both sides, there is a minute, membranous, transparent, lanceolate, acute scale. It also exists in *N. spiralis*, but is ovate and obtuse in that plant. The structure of these parts is not well represented at *t.* 541 of this work.

The plant before us is in perfection at the latter end of July, and it is to be hoped that it will be discovered in some wet sandy place in the south of England now that its characters have been pointed out to the English botanist.

C. C. B.

May 1st 1838.

IRIS tuberosa.

Tuberous Iris. Snake's Head Flower-de-luce.

TRIANDRIA Monogynia.

GEN. CHAR. *Corolla* superior, tubular at the base, 6-cleft, the alternate segments reflexed. *Stigmas* 3, petal-like, 2-lipped, covering the stamens.

SPEC. CHAR. Corolla beardless. Root tuberous. Leaves four-sided.

SYN. Iris tuberosa. *Linn. Sp. Pl.* 58. *Sibth. & Sm. Fl. Græc. v.* 1. *t.* 41. *Red. Lil. v.* 1. *t.* 48. *Curt. Bot. Mag. t.* 531. *Bert. Fl. Ital. v.* 1. 242. *Host. Fl. Austr. v.* 1. 49. *DeCand. Fl. Fr. v.* 5. 328. *Lob. Stirp.* 51 *Ger. Em.* 103. *f.* 3. *Park. Parad.* 188. *t.* 185. *f.* 6. *Mor. Oxon. v.* 2. 348. *sect.* 4. *t.* 5. *Loudon, Mag. of Nat. Hist. v.* 4. 28. *f.* 9.

Hermodactylus folio quadrangulo. *Tourn. Cor.* 50.

IN a memoir by the Rev. Mr. Bree of Allesley, in Loudon's *Magazine of Natural History*, as referred to above, this curious Iris, a native of the Levant and of other countries bordering on the Mediterranean, and formerly cultivated for its medicinal qualities, is recorded as established in two spots in the vicinity of Cork. In the same Magazine, *v.* 5. *p.* 200, tubers of it are stated to have been received at the Cambridge Botanic Garden, as of an unknown plant growing plentifully wild "in Cornwall, and near the sea." Our specimens were kindly sent from Penzance by the Rev. Henry Pennick, who finds the plant in considerable plenty in four or five places, "some miles apart," in that neighbourhood, growing in shady situations, in orchards and hedges, in a damp vegetable soil, under the shelter of

trees, and flowering in April or late in March. We are induced to publish it as having an equal claim to admission into the British Flora with *Narcissus poeticus*, *Muscari racemosum*, and some other more common inhabitants, than the present, of our gardens.

Root a few horizontal, obtuse, cylindrical, white tubers, producing simple fibres from the point of divergence. Stem round, smooth, about a foot high, one-flowered, surrounded at the base by broad scariose sheaths, inclosing with it a tuft of smooth, pale green, slender, flaccid leaves, each also separately sheathed, which are much longer than the stem, quadrangular, sharp-pointed, of a loosely cellular texture, and increase in length and become trailing after the flowering is past. Stem-leaves sheathing at the base, gradually shorter; the uppermost scarcely more than a ventricose sheath. Spath of two lanceolate sheathing leaves, unequal in width, a little overtopping the expanded flower. Flower-stalk inclosed, longer than the exposed, oblong, bluntly triangular germen. Corolla funnel-shaped, tube cylindrical, shorter than the germen: outer segments with a broad obovate claw, three times as long as the germen, pale green on the outside with purplish veins and a yellower keel, and rather more tinged with dull purple within; the limb ovate, somewhat crenate, emarginate, pale purplish green on the back, its upper surface of a velvety appearance and dark lurid colour, almost black, varying, as it should seem, with a more or less decided tinge of blue: inner segments pale-green, very small, scarcely so long as the stamens, keeled, narrowly lanceolate, with a long slender curved point. Style short, triangular. Stigmas nearly equalling the outer segments of the corolla; their upper segments diverging, acuminate, crenate. Capsule three-sided, pendulous. The seeds are said to be round and white.

In habit this plant resembles a Moræa, and differs much from the generality of the Irises.

We take occasion to correct an inaccuracy in the account of *Lilium Martagon*, *t.* 2799. We were indebted for our specimens to William Arnold Bromfield, Esq., M.D. only, not to Mr. Borrer.

May 1st 1838.

SCIRPUS pungens.

Sharp Club-rush.

TRIANDRIA Monogynia.

GEN. CHAR. *Glumes* imbricated in many rows. *Hypogynous setæ* 6, rarely fewer, persistent. *Style* 2—3 fid, its base not inflated, deciduous. *Caryopsis* flat on one side, convex on the other.

SPEC. CHAR. Stem triquetrous. Spikes 1—3, sessile, lateral. Glumes smooth, pointed, emarginate, slightly fringed; lobes acute. Stigmas 2. Apex of the anthers subulate and ciliated. Root creeping.

SYN. Scirpus pungens. *Vahl. En. v.* 2. 255. *Dietr. Sp. Pl. v.* 2. 175. *Bert. Fl. Ital. v.* 1. 295. *Kunth, Cyper.* 162.

S. Rothii. "*Hoppe in Sturm. Germ.* 36." *Gaud. Fl. Helv. v.* 1. 124. *Bluff. et Fingerh. ed.* 2. *v.* 1. 87.

S. tenuifolius. *De Cand. Fl. Fr. v.* 5. 300. *Bot. Gall.* 487.

S. triqueter β. *Sm. Eng. Fl. v.* 1. 60.

Heleogiton pungens. *Reich. Fl. Excurs. no.* 538.

Juncus acutus maritimus caule triquetro, rigido, mucrone pungente. *Dill. in Raii Syn.* 429.

ROOT creeping extensively. Stems triquetrous, from a few inches to a foot and a half in height, rigid, acute, with 1—4 leaves at its base, which are narrow, keeled, terminated by a long triquetrous point, sheathing, and usually much shorter than the stem. Spikes lateral, sessile, ovate, 1—3, collected into a roundish head, rarely solitary. Glumes reddish, ovate, concave, smooth, bifid, with a short strong awn-like point between them, the lobes

acute and slightly fringed. Filaments of the stamens persistent. Anthers terminating in a long subulate point which is minutely ciliated at its margins. Hypogynous setæ 2 or 3, much shorter than the fruit, fringed with recurved hairs. Fruit roundish obovate, compressed, flat on one side and convex on the other, with a short point, smooth, yellowish when ripe. Style simple, stigmas two.

This plant appears to have been first noticed in Jersey by Sherard, as recorded in the third edition of Ray's Synopsis; but I am not aware that it has been gathered by any botanist since that time, until the recent visit of my friend Mr. Woods to that island. He gathered it in July 1836, on the banks of St. Ouen's Pond, and referred it correctly to the *S. tenuifolius* of De Candolle. Our specimens were obtained from the same place, on the 25th of July 1837. It grows in a very wet sandy soil which is often flooded, and spreads largely, and in all directions, its creeping roots forming a strong net-work at a short distance below the surface.

Our plant is nearly allied to *S. triqueter*, but may be distinguished by the acute lobes of the glumes and the subulate points of the anthers, besides numerous other differences.—C. C. B.

May 1st 1838.

BROMUS maximus.

Great Brome-grass.

TRIANDRIA Digynia.

GEN. CHAR. *Panicle* lax. *Calyx* of 2 valves, many-flowered. *Corolla* of 2 lanceolate valves; external one awned below the bifid extremity.

SPEC. CHAR. Panicle erect, lax, at length nodding. Spikelets lanceolate, downy; their stalks lengthened after flowering. Awns 2 or 3 times as long as the glumes. Leaves downy on both sides.

SYN. Bromus maximus. *Desf. Fl. Atl.* 95. *t.* 26. *Reich. Fl. Excurs.* 277. *Icon. cent.* xi. *f.* 1585. *Bert. Fl. Ital. v.* 1. 678. *Kunth, Agrost.* 419.

THIS very beautiful grass was first noticed in the island of Jersey by Joseph Woods, Esq., but he was unable, from accidental causes, to determine its characters. It has been confounded with *B. diandrus*, of Curtis, but upon examination will be found to be abundantly different from that species. It appears to be far from rare in the southern parts of Europe.

Root consisting of strong, branched, flexuose fibres, which are usually somewhat downy. Stems in tufts, erect, from 6 inches to 2 feet high, striated, their upper parts downy. Leaves hairy upon both sides, arising from very long striated and hairy sheaths. Panicle simple, secund, erect when in flower, afterwards slightly nodding. The rachis and peduncles, which are much lengthened after the flowering, downy. Spikelets, together with the awns, extremely long. Calyx-glumes long and attenuated, so as almost to appear awned. External glume of the corolla long, deeply divided at the point and produced into an awn which is two, three or even four times as long as the glume, scabrous, channeled

below and terminating in a very slender point. Internal glume much shorter than the outer one, lanceolate, pointed and entire. Stamens usually 2.

The specimens figured were gathered at the Greve d'Azette, Jersey, growing in loose sand. It is also found in several other sandy places in that island, such as the Quenvais, St. Ouen's Bay, &c., flowering in June and July.—C. C. B.

May 1st 1838.

SINAPIS Cheiranthus.

Wall-flower Mustard.

TETRADYNAMIA Siliquosa.

GEN. CHAR. *Pod* linear or oblong; *valves* convex, with 3 or 5 straight and strong nerves. *Seeds* in 1 row, globose. *Cotyledons* incumbent, folded together.

SPEC. CHAR. Leaves stalked, hispid, all deeply pinnatifid; lobes oval-oblong, unequally toothed, in the upper leaves linear. Pods cylindrical; valves 3-nerved. Calyx erect, adpressed. Stem hispid below.

SYN. Sinapis Cheiranthus. *Koch, Deutsch. Fl. v.* 4. 717. *Syn.* 55.

Brassica Cheiranthos. "*Vill. Dauph. v.* 3. 332. *t.* 36." *DeCand. Syst. v.* 2. 600. *Bot. Gall.* 51. *Loisel. Fl. Gall. v.* 2. 70. *Gaud. Fl. Helv. v.* 4. 379. *Reich. Fl. Excurs. no.* 4432.

THIS plant is referred to the genus *Sinapis* rather than to *Brassica*, in conformity with the new arrangement of the Brassiceæ by the celebrated Koch, as quoted above. I must refer to his *Deutsch. Flora* and *Syn. Fl. Germ.* for the details, merely observing that he removes *Sinapis nigra* to the genus *Brassica*, and that our *B. monensis*, which is very nearly allied to the plant before us, must also be considered as a species of *Sinapis*.

Root thick, woody and perhaps perennial. The radical leaves numerous, rosulate, the cauline ones few and distant, all stalked and deeply pinnatifid; the lobes of the lower leaves oblong-ovate and unequally toothed, of the upper ones linear and entire. Stem round, branched, hairy below

but nearly glabrous in its upper parts. Flowers numerous, yellow. Calyx erect, adpressed, hispid above. Petals twice as long as the calyx, veined. Pod ascending, shortly stalked; its valves with 3 strong straight nerves upon each; its rostrum two-edged, attenuated upwards and having 1 or 2 seeds in its base. Seeds globular, reticulated.

This plant was first noticed as a native of Jersey by Mr. J. Woods, in the summer of 1836, growing in loose sand near to the shores of St. Aubin's Bay. The specimens figured were obtained from that place on the 25th of July 1837.—C. C. B.

Sept.1.1838.

POLYGONUM laxum.

Slender-headed Persicaria.

OCTANDRIA Trigynia.

GEN. CHAR. *Cal.* of 5 persistent segments. *Cor.* none. *Stam.* 5—8. *Styles* 2—3. *Fruit* a one-seeded compressed or trigonous nut, with a lateral embryo, and the cotyledons linear-oblong.

SPEC. CHAR. Stem ascending or erect. Ochreæ lax, very shortly ciliated; floral ones horned. Leaves lanceolate, attenuated at both ends, wavy. Panicles elongated, slender. Peduncles and petioles glandular and scabrous. Fruit lenticular, its faces round, pointed, smooth, one fourth shorter than the persistent calyx.

Polygonum laxum. *Reich. Icon. t.* 492. *Fl. Excurs. no.* 3696. *Borr. in Hook. Br. Fl.* (ed. 4.) 165 *note.*

OUR present plant is one of those which present great difficulty to the botanist, since it appears to be exactly intermediate between two well-known species. On the one hand, it has the habit of *P. Persicaria*, from which it is distinguished by its glandular peduncles, very shortly ciliated ochreæ, which are horned on the upper part of the stem, and by the fruit-bearing calyx extending beyond the nut: on the other side, it is very nearly related to *P. lapathifolium*, having the same glandular peduncles and foliage, but is distinguished by its ciliated ochreæ and longer calyx. Under these circumstances, I do not consider myself at liberty to reduce this plant to either of those species as a variety, but would rather consider it as forming one of a series of very nearly related species. It is, however, not improbable that the three may ultimately be determined to

form only one variable species; but this is a question which remains to be decided by further observation and by experimental culture.

The root is annual. Stem ascending or often erect, from a few inches to 2 feet or more in length, branched, covered with minute glandular spots, thickened slightly above the joints. The ochreæ are lax, fringed with very short ciliæ, the floral ones bearing a kind of horn formed by an abortive petiole. Leaves lanceolate, narrowing gradually into the petiole, usually slightly wavy, often having a dark spot in their centre, their margin fringed with hairs pointing forwards, their disc usually nearly glabrous but sometimes with minute hairs upon both sides; the under side thickly covered with minute glands, a few of which may be discovered upon the upper surface. The petioles scabrous and slightly glandular. The panicles usually slender, erect, rather dense; the peduncles rough with minute stalked glands intermixed with scabrous points. Sepals 4 or 5, smooth or bearing a few minute glands. Stamens 6—8. Styles 2. Fruit lenticular, compressed, its faces nearly round, with a short acute point, which appears, when young, as if it were the base of the style, slightly rough but shining, a good deal shorter than the fruit-bearing calyx, which is closed over it in such a manner as to take an ovate-attenuated form. A variety has occurred, in Cambridgeshire, with the under side of the leaves woolly, and with scarcely any glands.

This plant flowers in the autumn and inhabits damp gravelly places: the more attenuated form has been observed at Woodford, Essex, by Mr. E. Forster (from whom our specimen was received), and at Cambridge. The more densely spiked variety was gathered by myself near the railroad at Chalk Farm, London, and I have also observed it in Jersey.—C. C. B.

Sowerby del. et lith.

LOTUS hispidus.

Hairy Bird's-foot Trefoil.

DIADELPHIA Decandria.

GEN. CHAR. *Legume* cylindrical, somewhat spongy within and imperfectly many-celled. *Keel* acuminate.

SPEC. CHAR. Annual, hairy. Stems prostrate. Heads about three-flowered. Legumes about six times as long as broad.

SYN. Lotus hispidus. *"Loiseleur, Fl. Gall. v. 2. 491. t. 16." Pers. Syn. v. 2. 354. DeCand. Prod. v. 2. 212.*

L. angustissimus β. *Hooker, Brit. Fl. ed. 3. v. 1. 334.*

FOUND by Mr. J. Woods, near the Castle at Dartmouth, in June 1828; and in July 1836 in Jersey, where *Lotus angustissimus* also occurs.

Root small but firm. Stems numerous, prostrate. Leaves covered with long hairs. Leaflets varying from obovate and quite obtuse, to elliptic-acute. Stipules ovate, oblique, one side being frequently cordate. Heads on stalks much longer than the leaves, but rarely twice as long; furnished with a simple or ternate floral leaf. Partial stalk about as long as the tube of the calyx. Flowers from 1 to 5, but by far the most usual number is 3. Calyx campanulate, fringed with long hairs. Pods about twice as long as the calyx, rather turgid, about one-twelfth of an inch in diameter, containing about a dozen slightly compressed seeds of a bottle-green colour.

The more numerous and congregated flowers, and their darker colour, readily distinguish this plant at first sight from *Lotus angustissimus*, but its claim to be considered as

a distinct species must rest principally on the comparative shortness of the pod, which in this plant rarely exceeds half an inch in length, and contains about a dozen seeds, while that of *L. angustissimus*, although more slender, is generally more than an inch long, and contains as many as twenty seeds. The leaflets and stipules of our present plant are usually broader in proportion, and the flowers rather longer in proportion to the calyx.

Lotus pilosissimus of DeCandolle would appear from the description to be a variety of this plant; while his *L. diffusus* and *L. angustissimus* are certainly both to be referred to our *Lotus angustissimus*. Both DeCandolle and Persoon quote Desfontaines, *Cat. Hort. Paris.* 190: the last-named botanist is therefore probably the author of the name, which is not a good one, as the plant is by no means hispid, but clothed with soft hairs.

The specific character and synonyms of *Lotus angustissimus* (*L. diffusus* of *Engl. Bot. t.* 925.) should stand as follows.

LOTUS angustissimus, (*t.* 925.)

Slender Bird's-foot Trefoil.*

Spec. Char. Annual, hairy. Stems prostrate. Heads about two-flowered. Legumes from twelve to sixteen times as long as broad.

Syn. L. angustissimus. *Linn. Sp. Pl.* 1090. *Smith Engl. Fl. v.* 3. 315. *DeCand. Prod. v.* 2. 213. *Hooker Brit. Fl. ed.* 3. *v.* 1. 334. *Engl. Bot. ed.* 2. 1045.

L. diffusus. *Smith Fl. Brit. v.* 2. 794. *DeCand. Prod. v.* 2. 213.

This is the Hastings plant, and it is also that found by Dr. Beeke near King's Teignton.—J. W.

* This English name appears to have been hastily given to *L. tenuis* in *Engl. Bot. Supp. t.* 2615., it having been pre-engaged. That might be called *Narrow-leaved Bird's-foot Trefoil.*—Ed.

CHARA pulchella.

Beautiful Chara.

CRYPTOGAMIA Characeæ.

GEN. CHAR. *Stem* spirally striated, articulated, bearing whorled branches. *Fructification* of two kinds; spirally striated *nucules*, and coloured *globules*.—*Greville.*

SPEC. CHAR. Stem smooth, even, flexible. Branchlets articulated. Bracteas about equal to the nucule. Nucule oblong.

SYN. Chara pulchella. *Wallr. Ann. Bot. p.* 184. *t.* 2.
Chara pulchella, γ. globularis. *Wallr. Fl. Crypt. Germ. v.* 2. 108.

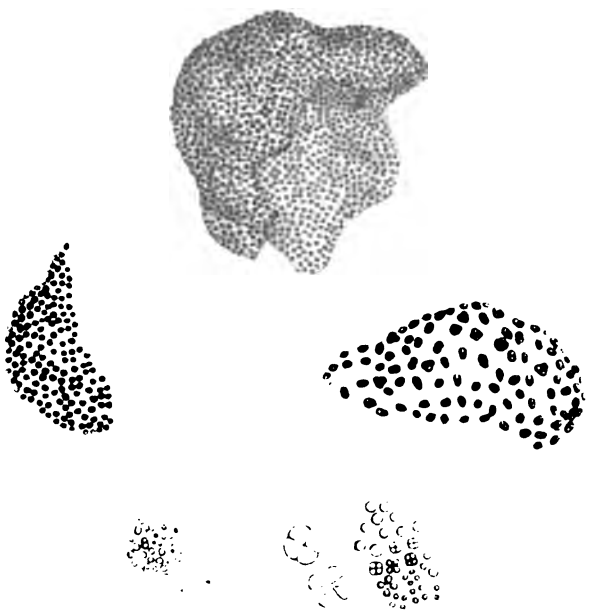
STEM about 8 inches long, slender, branched, flexible even when dry. Whorls consisting of 6—8 branchlets; lower ones barren, those in the middle longest. Branchlets consisting of about 8 articulations, each of which is apparently again divided, in consequence of the small tubes with which the main tube is coated having a single septum in the centre of each articulation. In the barren whorls, in the place where the bracteas ought to be developed, there is a transverse, elliptic, raised spot. Upper whorls shorter and more crowded; each branchlet supporting 3—4 nucules and globules. Globules minute, very evanescent. Nucules oblong, at first pale, then brown with a tinge of orange-red, at length black, often bleached in old specimens, each accompanied by four bracteas, the longest of which are nearly of the same length as the nucule. On the opposite side to that on which they are produced, are elliptic raised spots. The three last joints of the branch-

[illegible] as in *Chara vulgaris*, are not covered with any smaller tubes, and the fourth has frequently no bracteas.

This species is alluded to under *Chara Hedwigii*, *t.* 2762. It is distinguished from *Chara Hedwigii*, principally by its more flexible stems and more oblong nucules. When dry it is scarcely at all brittle, whereas *Chara Hedwigii* is extremely so, whence it is called *Chara fragilis* by some authors. It appears, according to Wallroth, to be sometimes quite destitute of the coating of smaller tubes.

Wallroth in his *Flora Cryptogamica Germaniæ* has united both, together with *Chara delicatula* of Desvaux, *Chara aspera* of Willdenow, and *Chara capillacea* of some authors, under the name of *Chara pulchella*.

Our specimens were communicated from Sussex, by Mr. Borrer, in June 1835.—M. J. B.



TETRASPORA lubrica.

Lubricous Tetraspora.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Frond* tubular or inflated, gelatinous. *Fructification* minute granules loosely arranged in fours.

SPEC. CHAR. Frond quite simple, at first convolute, subgelatinous, waved, sinuated, more or less cribrose.

SYN. Tetraspora lubrica. *Ag. Syst. Alg.* 188. *Chev. Fl. Par. v.* 1. 7. *t.* 2. *f.* 10. *g. Dub. Bot. Gall.* 959. *Hook. Eng. Fl. v.* 5. *pt.* 1. 313.

Ulva lubrica. *Roth. Cat. Bot. v.* 1. 204. *t.* 5. *f.* 7. & *v.* 3. 247. *Ag. Spec. Alg. v.* 1. 415.

Conferva lubrica. *Roth. l. c. v.* 3. 168.

Rivularia lubrica. *De Cand. Fl. Fr. v.* 6. 1.

Gastridium lubricum. *Lyngb. Hyd. Dan.* 71.

Tetrasporella lubrica. *Gaill. Aperçu d'Hist. Nat.* (*vide Ann. d. Sc. Nat. n. s. v.* 1. *p.* 51.) *Desm. Pl. Crypt. n.* 655.

IN gently running fresh water in the spring and the beginning of summer: at Hellesdon, Norfolk, Sir W. J. Hooker; Hurst Pierpoint, and elsewhere in Sussex, Mr. Borrer; Appin, Capt. Carmichael; King's Cliff, Norths, Rev. M. J. Berkeley.

Fronds 1—2 inches long, at first linear and convolute but not truly tubular, at length more or less expanded, oblong, waved and sinuated, and pierced here and there

with round lacunæ, whose borders are slightly thickened. Fructification consisting of subglobose granules arranged in fours. These arise from larger globose granules which split into four, and gradually assume a subglobose or oval form. In old plants the quaternary arrangement is no longer visible, and the granules under a high power contain about three minute globose bodies.

Though the plant was kept from May 13 to June 10, 1837, I could never observe the slightest motion in any of the granules at any time of their development. This, however, may have arisen from the unusual coldness of the season. During the present year the species has not occurred where it was in profusion in 1837, and I must therefore refer to the observations of M. Gaillon.

According to M. Desmazieres, *Tetraspora lubrica Ag. Ic. Alg. Eur. t.* 15., to which I believe *Moug. & Nest. n.* 600. is referable, is a distinct species, of which he has given specimens, *Pl. Crypt. n.* 654., under the name of *Tetrasporella cribrosa*.—M. J. B.

Fig. 1.

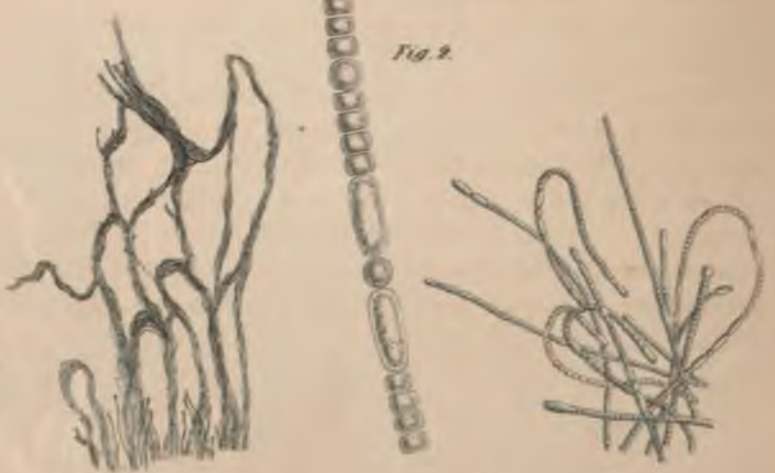


Fig. 2.

2826 (Fig. 1.).

SCYTONEMA turfaceum.

Peat Scytonema.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Thread* continuous, coriaceous, naked (not mucous), filled with annuliform or polymorphous transverse parallel sporangia.

SPEC. CHAR. Thread abbreviated proliferous golden yellow-brown, obtuse: sporangia at length green.

SYN. Dematium turfaceum. *Pers. Myc. Eur. v.* 1. 68. *Lk. Sp. Pl.* 1. 134.

ON heath, sphagnum, &c., on the Pentland Hills, found by Dr. Greville. Forming a short brownish shaggy stratum, overrunning the plants on which it grows. Threads suberect, giving out in a proliferous manner short very obtuse branches of a beautiful golden yellow-brown. Two sometimes spring from the same point. The walls of the threads are very thick. Sporangia annuliform, green, composed of a compact grumous mass, or divided, especially in the older threads, into a single row of distinct oblong granules.

This very beautiful Alga was communicated by Dr. Greville to Sir W. J. Hooker, in whose Herbarium it is marked by M. Klotzsch *Dematium turfaceum, Lk.* which there is every reason to believe is correct. Link appears to have been acquainted with the plant merely from the short notice of it by Persoon in the *Mycologia Europæa*. Fries tells us expressly, *Syst. Myc. v.* 2. *p.* 603. *ad not.*, that

it is an Alga. It is indeed a true *Scytonema*, which bears much resemblance to *Petalonema alatum*, though it wants the characteristic feature of that very curious production. *Radulum aterrimum* of Fries, of which specimens are published in *Scleromycetes Suecie*, and to which Persoon's *var. cornutum* is referred, is altogether different, and truly a fungus.—M. J. B.

2826 (Fig. 2.).

SPHÆROZYGA Jacobi.

Jacobi's Sphærozyga.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Stratum* mucous, containing jointed simple threads; articulations here and there heteromorphous.

SPEC. CHAR. Threads loosely disposed, radiating; heteromorphous joints globose and elongated.

SYN. Sphærozyga Jacobi. *Ag. in Diar. Ratisb.* 1827. *Ic. Alg. Eur. no.* 35.

Nostoc anisococcum. *Spreng. Syst. Veg. v.* 4. 372. *Schwabe in Linnæa, v.* 11. 126. *t.* 2. *f.* 14.

ON mud in swampy ground, by the side of a brook at King's Cliffe, Northamptonshire, July 2, 1838.

Consisting of a thin dark green, more or less mucous stratum, mostly amorphous, but sometimes very obscurely lobed, from which the threads radiate, as in *Oscillatoria limosa,* in every direction, though to a much less extent. Threads much curved, or straight, consisting of subquadrate-submoniliform articulations, here and there interrupted or terminated by others which are globose or elongated. Frequently four elongated articulations, with a globose one in the centre, are interposed. The substance which connects the articulations is so transparent that I have not been able to detect its outline under a magnifying power of 600 diameters. In this state it has also been figured and described by M. Schwabe.

This very curious genus is allied on the one hand to

Anabaina and *Nostoc*, and on the other to *Rivularia*: its relation to *Oscillatoria* appears to be more remote. Its resemblance to *Anabaina* is so close that it is highly probable that the two genera will hereafter be united. The species is very variable.—M. J. B.

POLYGALA vulgaris β oxyptera.

Broad-fruited Milkwort.

DIADELPHIA Octandria.

GEN. CHAR. *Calyx* 5-sepalous, persistent, 2 interior sepals larger, wing-shaped. *Petals* combined with the stamens, lower one keeled. *Capsule* compressed. *Seed* with a 4-toothed arillus at its base.

SPEC. CHAR. Flowers in a terminal raceme, crested; wings elliptical-obovate, about as long as the corolla, 3-nerved, the lateral nerves externally branched and anastomosing at the apex. Lateral bracteas shorter than the pedicel.

α. wings broader than the capsule. *E. Bot. t.* 76.

β. wings narrower than the capsule.

SYN. P. vulgaris β oxyptera. *Koch. Syn. Fl. Germ.* 91.

P. oxyptera. *Reich. Icon.* 25. *t.* 24. *f.* 47—49. and *Fl. Excurs.* 351. *Fries. Nov. ed.* 2. 224.

P. multicaulis. *Tausch.* "*B. Zeit.* 1821. *II.* 563." and *Plantæ Selectæ Bohem.*

THIS plant has been considered as a distinct species by Reichenbach, Fries, and Tausch; nor should I have reduced it to the rank of a variety from any observations of my own, since I have not observed the proportional breadth of the wings to be variable. But the accurate Koch has done so; for he says (*Syn. p.* 91.), "alarum latitudo valde mutabilis."

Root fibrous. Stems prostrate, spreading, angular.

Leaves, on the lower part of the stems, small, scattered, obovate, blunt; the upper ones linear-lanceolate. Bracteas 3, unequal, the lower one half as long again as the others, and about equal to the pedicel, lanceolate, acute, membranous, 1-nerved, very fugacious. Sepals 5, the 3 exterior minute, oblong, the lateral ones 1-nerved, the superior one 3-nerved; the 2 interior large, elliptical, acute, shorter than the petals, narrower and scarcely longer than the fruit, with 3 nerves, the middle one branching on both sides, the lateral ones only externally, and anastomosing obliquely at the apex. Cor. fringed. Bundles of filaments hairy within. Ovarium longer than its stalk. Capsule obcordate, with a diaphanous margin, its surface covered with small excavated dots. Seed black, hairy, pendent from a 3-dentate arillus.

In general appearance this plant differs greatly from the true *P. vulgaris*, and is very conspicuous from its pale purplish blue or white flowers. It occurs plentifully in the Channel Islands, but is most common in Jersey, where the specimens figured were gathered on the side of a gully at St. Aubin's Bay, June 25, 1838. Mr. Borrer has gathered on the Newhaven cliffs and elsewhere in Sussex, specimens exactly corresponding with those from the Channel Islands.

It is probably the plant found by Mr. E. Forbes in the Isle of Man, and described by him in the *Trans. of the Edin. Botan. Soc. pt.* 1. *p.* 35, although he describes the wings as being blunt, a state in which I find them in what appears to be the same plant, gathered by myself at Seacombe, Cheshire, in September, 1837.—C. C. B.

ORCHIS laxiflora.

Lax-flowered Marsh-Orchis.

GYNANDRIA Monandria.

GEN. CHAR. *Lip* spurred. *Glands* of the stalks of the pollen masses contained in a common little pouch.

SPEC. CHAR. Lip 3-lobed, the lateral lobes rounded in front and crenulated, longer than the truncate, slightly emarginate intermediate one. Spur cylindrical, emarginate, much shorter than the germen. Lateral sepals reflexed. Upper petals connivent. Tubers undivided.

SYN. O. laxiflora. *Lam. Fl. Fr. v.* 3. 504. *Lois. Fl. Gall. v.* 2. 264. *Sebast. et Mauri Fl. Rom.* 304. *Bot. Gall.* 444. *Reich. Fl. Excurs.* 122.

O. ensifolia. *Vill. Dauph. v.* 2. 29. *Willd. v.* 4. 25.

O. morio fœmina procerior, majori flore. *Vaill. Bot. Par.* 150. *t.* 31. *f.* 33. 34.

THIS beautiful plant has a root formed of two roundish oblong undivided tubers and several strong fibres. The stem is from 1 to 2 feet high, round and smooth, and clothed with numerous lanceolate or linear-lanceolate leaves, which have 3 strong ribs and numerous intermediate striæ; above the uppermost leaf the stem is angular, the angles being rough with prominent teeth. The spike is very lax; the bractea nearly as long as the germen, the lower ones 7-nerved, the uppermost 3-nerved. The flowers are large, purple, distant; their sepals ovate-oblong, blunt, 5-ribbed, the two lateral ones reflexed, the intermediate one erect.

Petals ovate, slightly pointed, with 4 ribs, connivent; lip broad, transverse, 3-lobed, the lateral lobes large, crenulated, and rounded in front; the intermediate lobe short, or nearly obsolete, truncate, somewhat emarginate, its centre of a paler colour, and often almost white; spur scarcely more than half as long as the germen, cylindrical, or rarely slightly thickened at the tip, where it is compressed and deeply emarginate. Anther obcordate, slightly pointed. Stigma large, rhomboidal, longitudinal. The germen angular and twisted.

This plant is distinguished from *O. latifolia*, (in company with which and *O. maculata* it frequently grows,) by its undivided rounded tubers and great difference of habit. It is much more nearly allied to *O. Morio*; but that plant has single-nerved bracteas, and all the segments of its perianth, except the lip, connivent. The short spur also is a valuable distinctive character.

Almost every wet meadow and bog in the islands of Jersey and Guernsey is ornamented by a profusion of this plant. The specimens figured were gathered by the writer of this at St. Ouen's Pond, Jersey, June 9, 1838.—C. C. B.

Imp. 1st 1839.

PHASCUM stenophyllum.

Narrow-leaved Phascum.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fruit-stalk* terminal. *Capsule* closed (*lid* persistent). *Peristome* none. *Calyptra* dimidiate, sometimes campanulate.

SPEC. CHAR. Stemless, with conferva-like branches. Leaves linear-subulate, rigid, nearly entire, nerved throughout. Capsule roundish sessile. Calyptra campanulate.

SYN. Phasc. stenophyllum. *Voit. in Sturm Deutschl. Fl. Crypt. fasc.* 14. *Bridel, Br. Un. v.* 1. 30.

Phasc. crassinervium β. stenophyllum. *Bruch and Schimper, Bryol. Europæa, 7. t. 2.*

FOUND, very sparingly, on the borders of the Pool at Mere, in Cheshire, with *Phascum serratum*, Sept. 1834.

A very minute species. Leaves erect, slightly turned to one side, keeled, nerved to the summit, margin very obscurely serrulate or entire; perichætial leaves larger than the rest. Capsule immersed in the foliage, sessile, somewhat elliptical and pointed. Calyptra seldom if ever laterally torn, covering one third part of the capsule. Confervoid branches shorter than in *Phascum serratum*, from which it is distinguished by its very narrow rigid foliage, which is not altered or crisped when dry.

It must be admitted that this moss approaches very closely to the one figured in the admirably executed *Bryologia Europæa* as *Phascum crassinervium*, but it by no means corresponds with the one given under that name in Greville's *Scottish Cryptogamic Flora*, t. 353, and not well with the figure in *Schwaegr. Supp. I. P.* 1. *t.* 2, which is intermediate between the other two above-mentioned.—**W. W.**

Jan.y 1st 1824

GYMNOSTOMUM sphæricum.

Round-fruited Beardless Moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fruit-stalk* terminal. *Mouth of capsule* naked, or occasionally with a horizontal membrane. *Calyptra* dimidiate.

SPEC. CHAR. Stem simple. Leaves oblong-ovate, nearly entire, nerved nearly to the summit. Capsule hemispherical; lid convex, slightly apiculate. Calyptra campanulate, torn.

SYN. Gymnostomum sphæricum. *Schwaegr. Supp. I. P. I.* 21. *t.* 8. *Bridel, Br. Un. v.* 1. 97.

ON the borders of the Pool at Mere, in Cheshire, Sept. 1834.

Growing scattered, or occasionally in loose patches. Stems about one fourth of an inch long. Leaves few, suberect, concave, narrowly elliptical, rather obtuse, nerve narrow, margin nearly entire, but marked here and there by the prominent cells of the large reticulation. Fruit-stalk half immersed in the foliage, about 3 lines in length, rather thick. Capsule erect, and with the lid nearly globose, red, when dry and mature much expanded at the mouth; lid, sometimes conical, sometimes convex with a small point. Calyptra campanulate, variously torn at the base. Sporules rather large, reddish.

This moss has some resemblance to *Gymnostomum truncatulum*, but belongs to a different division, called by Bridel *Physcomitrion*, so that its nearest British ally is *G. pyriforme*.—W. W.

HYMENOSTOMUM obliquum.

Dwarf-clustered Film-Moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Mouth of the capsule* much contracted, naked, at first closed by the upper portion of the internal membrane. *Calyptra* dimidiate.

SPEC. CHAR. Stems short, branched. Leaves nearly erect, linear, with involute margins, crisped when dry. Fruit-stalk very short. Capsule oblong ovate; lid conical acuminate.

SYN. Hymenostomum obliquum. *Bridel, Br. Un. v.* 2. 75.

ON the borders of the Pool at Mere, Cheshire, abundantly, Sept. 1834.

Growing in broad and rather dense patches. Stems occasionally much branched, branches very short. Leaves very closely resembling those of *H. microstomum*, linear-subulate, entire, with involute margins, nerved to the summit. Perichætial leaves longer than the rest. Fruit-stalks mostly solitary, sometimes in pairs, at the ends of the branches, extremely short, scarcely rising above the leaves: hence this moss may at first sight be easily mistaken for a *Phascum*. Capsule subcylindrical, sometimes bent, the mouth much contracted, and completely closed by the sporular or internal membrane, composed at its inner edge of 16 cells. Annulus none. Lid conico-rostrate. Calyptra dimidiate.

The writer of this article is indebted to his friend, W.

Valentine, Esq., for a correct view of the structure of th stoma in this genus. It is formed by an intermediate membrane, first detected by him, common to all mosses, but in this genus considerably developed, to which he has applied the term thecal membrane, whose expanded summit in this instance constitutes the periphragm or border of the mouth of the capsule.

Future observation may perhaps show this moss to be only a singular variety of *Hymenost.* (*Gymnostomum*) *microstomum*, *t.* 2215.—W. W.

LINARIA Pelisseriana.

Upright Purple Toadflax.

DIDYNAMIA Angiospermia.

GEN. CHAR. *Calyx* 5-partite. *Corolla* personate, spurred at the base, its mouth closed by a projecting *palate*. *Capsule* ventricose, 2-celled, opening by valves or teeth.

SPEC. CHAR. Leaves linear; the lower ones 3 or 4 in a whorl; the upper alternate; on the sterile branches ternate, lanceolate or ovate. Flowers shortly racemed. Peduncles about as long as the bracteas. Sepals linear, acute, twice as long as the capsule. Seeds nearly flat, with a fringed margin, smooth externally, minutely tuberculated within.

SYN. Linaria Pelisseriana. *De Cand. Fl. Fr. v. 3.* 589. *Bot. Gall.* 345. *Sebast. et Mauri,* 203. *Lois. Fl. Gall. v.* 2. 31. *Reich. Fl. Excurs.* 375. *Koch, Syn.* 522.

Antirrhinum Pelisserianum. *Linn. Sp. Pl.* 855. *Fl. Græc. t.* 591.

ROOT subfusiform, fibrous, annual, bearing from one to four or five erect round slightly branched stems, from 6 inches to a foot and a half high, and producing also a few slender prostrate barren stems. Leaves linear, acute, slightly fleshy, channeled, attenuated below, alternate,

those near the base of the stem excepted, which are placed 3 or 4 in a whorl; on the barren stems they are lanceolate, ovate, or elliptical, and 3 together. The flowers are placed in a short raceme, which is elongated as the fruit ripens. They are purple with darker veins; the upper lip linear, broad and deeply divided into two oblong rounded segments; the lower lip 3-lobed, the lobes roundish, the palate gibbous, large, paler than the rest of the corolla; spur long, straight, subulate. The anthers pale with a darker margin; the pollen bright yellow; style pale, its top purple, with an incurved hemispherical yellow stigma. Calyx of 5 linear-lanceolate acute sepals, which are rather longer than the tube of the corolla, and twice as long as the bilobed germen. Capsule twice as broad as long, its lobes spherical and divided by a deep notch. Bracteas about equal to the peduncle or rather longer, similar to the leaves. Seeds nearly flat, surrounded by an orbicular fringed wing, externally nearly smooth, minutely tubercular within.

The specimens of this elegant plant were gathered June 5, 1838, on the slope of a hill facing the south, amongst *Ulex europæus*, by the side of a road leading from a water-mill, near St. Ouen's pond, to St. Peter's, Jersey, where it was discovered by myself, in company with Messrs. W. Christy, Jun., and R. M. Lingwood, during the preceding autumn. It has not been noticed in any other part of the Channel Islands.—C. C. B.

2833.

RANUNCULUS ophioglossifolius.

Broad-leaved Spear-wort.

POLYANDRIA Polygynia.

GEN. CHAR. *Calyx* of 5, rarely 3 leaves. *Petals* 5 or more, with a nectariferous pore at the base. *Pericarps* without awns.

SPEC. CHAR. Stem erect, many-flowered, hollow. Lower leaves stalked, cordate-ovate; upper ones oblong, sessile. Peduncles opposite to the leaves. Carpels obliquely ovate, with a short rostrum, tuberculated.

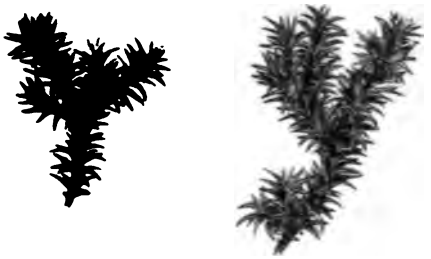
SYN. Ranunculus ophioglossifolius. *Vill. Fl. Delph. v.* 4. 731. *t.* 49. *De Cand. Syst. v.* 1. 249. *Prod. v.* 1. 43. *Bot. Gall.* 13. *Host. Fl. Aust. v.* 2. 107. *Reich. Fl. Excurs. no.* 4613. *Lois. Fl. Gall. v.* 1. 394. *St. Aman. Fl. Agen.* 225. *Koch, Syn.* 15.

R. ophioglossoides. *Willd. Sp. Pl. v.* 2. 1310. *Smith, in Rees. Cycl. no.* 10.

THIS very interesting addition to the Flora of the Channel Islands has only been noticed in one place, namely, St. Peter's Marsh, Jersey, where it occurs in the greatest profusion. It appears to prefer growing in spots which are just covered with water. Our specimens were gathered on the western side, on the 6th of June, 1838.

Root formed of long branched fibres spreading in whorls from the lower joints of the stem. Stem erect, cylindrical, hollow, smooth, branched above, brittle. Leaves oblong; the upper ones elongated and sessile; the intermediate somewhat stalked, with a long sheathing base, minutely and

distantly serrated; lower ones on long stalks, cordate or cordate-ovate, crenate-dentate. Peduncles opposite to the leaves, rather long. Flowers small, yellow. Sepals spreading, hooded, keeled, yellow with the exception of the keel, falling almost immediately after the flower has expanded. Petals ovate, with a short linear claw; the nectariferous fovea covered by a small fleshy scale. Stamens about 12 in number. Heads of fruit spherical. Nuts obliquely ovate, covered with small tubercles, margined and shortly beaked.—C. C. B.



May 1st 1820

ORTHOTRICHUM Lyellii.

Lyell's Orthotrichum.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fruit-stalk* terminal. *Peristome* of 16 teeth in pairs, usually with the same number of intermediate ciliary processes lying horizontally. *Calyptra* mitriform, furrowed, more or less hairy.

SPEC. CHAR. Stems erect, clustered, elongated, branched. Leaves linear, lanceolate, subundulate, keeled, very acute, crisped when dry. Capsule oblong, furrowed. Cilia 16, torulose. Calyptra very hairy.

SYN. Orthotrichum Lyellii. *Hook* and *Tayl. Musc. Brit. ed.* 2. 129. *t.* 22. *Hook. Fl. Scot. v.* 2. 137. *Mougeot et Nestl. no.* 619. *Bridel. Br. Un. v.* 1. 295.

OUR specimens were gathered in Stanton Park, near Matlock, October, 1833.

Stems from 2 to 4 inches long or more, branched and tufted, sometimes bent upwards like *Leucodon sciuroides*, but more frequently in loose soft tufts of a pale yellowish green colour. Leaves linear-lanceolate, very long, rather flaccid, wavy or flexuose, entire, nerved nearly to the summit, widely spreading and somewhat recurved, variously bent when dry, but not crisped, frequently beset on the surface and at the margin with small gland-like bodies, which may perhaps be enlarged cells, the result of disease, or of a tendency to become gemmiparous. Fruit-stalks very short. Capsules scarcely emerging from the foliage, narrowly ovate, with eight ribs or furrows, gradually tapering below into the

fruit-stalk. Outer peristome of 16 pale tapering teeth, marked with a medial line, reflexed when dry. Inner peristome of 16 red jointed cilia, irregularly toothed at the sides. Lid conical acuminate. Calyptra pale brown, hairy, nearly covering the capsule.

This fine species is easily distinguished by its long narrow spreading leaves and red inner peristome. The fruit is comparatively of rare occurrence.—W. W.

BRYUM gracile.

Slender Thread-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fruit-stalk* terminal. *Peristome* double; outer, of 16 teeth; inner, a membrane divided into 16 equal segments, usually with intermediate filiform processes. *Calyptra* dimidiate.

SPEC. CHAR. Stems tufted. Leaves crowded, linear-subulate, wavy, entire, nerved nearly to the summit. Capsule inclined, narrowly obovate, tapering below. Outer peristome incurved. Lid conical, with a short beak.

SYN. Orthodontium lineare. *Schwaegr. Suppl. v. 2. P. 2. 124. t. 188.* ?

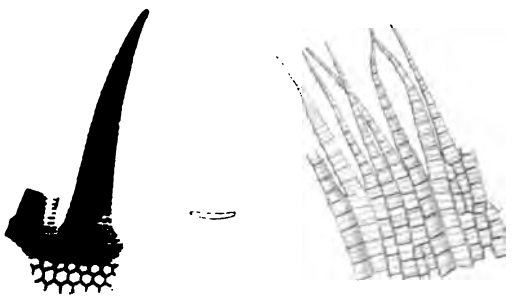
ON the sandstone rocks at Helsby and Frodsham, in Cheshire, being the northern termination of Delamere Forest, abundant, March 25th, 1833.

Stems irregularly clustered, usually less than half an inch long; sometimes two or three inches in a barren state, and more or less branched. Leaves much crowded, erect, somewhat crisped when dry, very narrow at the base and gradually tapering upwards, the lower ones especially wavy or flexuose, keeled, with a faint nerve gradually disappearing near the summit, the margin slightly recurved, and very obscurely toothed in consequence of the occasionally prominent marginal areolæ. Fruit-stalks pale red, very slender, slightly curved, about half an inch long, occasionally in pairs. Capsule inclined, pyriform-oblong, gradually tapering downwards into the fruit-stalk where it forms a kind of

apophysis, pale yellowish brown and somewhat polished Outer peristome of 16 pale yellow acuminated teeth, which in dry and mature specimens are strongly incurved, so as to be concealed within the capsule. Inner peristome a membrane divided almost to the base into 16 very narrow filiform erect processes as long as the outer peristome, without intermediate cilia. Annulus none, unless a separable yellow border at the margin of the lid may be so termed. Lid about one fourth of the length of the capsule, conical with a short inclined beak. Calyptra dimidiate, very small, yellowish, about twice as long as the lid. Perichætial leaves not apparently distinct, and it is sometimes difficult to perceive that the fructification is really terminal, from the frequent prolongation of the stem beyond the insertion of the fruit-stalk, which has then the appearance of being axillary within one of the leaves, while several of the contiguous leaves higher up have also in their axillæ abortive pistilla, an uncommon and singular feature. Anthers have not been observed.

Except the above synonym, there is no indication in any known work by which to infer that this moss has ever before been found in Europe. The moss figured by Schwaegrichen was brought from Brazil; and in Peru, at Surucucho, a moss either identical with or closely allied to our moss, was gathered about the same time by Professor Jameson. Its nearest British ally is *Bryum pyriforme*, with which however it is in no danger of being confounded. It belongs to the genus *Pohlia* of Bridel.—W. W.

2886.



BRYUM albicans.

Pale glaucous Thread-moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fruit-stalk* terminal. *Peristome* double, outer, of 16 teeth; inner, a membrane divided into 16 equal segments, usually with intermediate filiform processes. *Calyptra* dimidiate.

SPEC. CHAR. Stem erect. Leaves oblong-ovate, acute, serrulate above, nerved nearly to the summit. Capsule pendulous, turbinate. Lid conical-acuminate.

SYN. Bryum albicans. "*Wahl.*" *Hooker, Brit. Fl. v. 2. p.* 59.

B. Wahlenbergii. *Schwaegr. Suppl. v.* 1. *S.* 2. 92. *t.* 70. *Web. et Mohr. Bot. Tasch.* 280.

Mnium albicans. *Wahl. Fl. Lapp. p.* 353.

OUR specimens are from Nant-y-Fridd, near Wrexham, April, 1833.

Stems tufted, nearly simple, but often furnished with innovations, from one to three inches long. Lower leaves scattered, upper ones more crowded, ovate and somewhat tapering upwards, rather acute, serrulate near the apex, slightly concave, sub-erect, pale glaucous green, with a reddish nerve extending very nearly to the summit, reticulation rather large. Fruit-stalk about an inch long, rather thick, glaucous, as well as the ripening fruit. Capsule at first nearly pyriform or obovate; at length when fully ripe it becomes turbinate with a wider mouth, and in drying acquires a bright red tint. Outer peristome of 16 linear-

lanceolate red teeth, internally barred, and marked with a medial line. Inner peristome divided about half-way into 16 perforated segments, with a pair of cilia between each pair of segments. Annulus none. Lid convex, mucronulate.

Rather more than twice the size of *Bryum carneum*, with which it very nearly corresponds in character; but it ripens at a later season, and is easily known by its broader, pale, glaucous foliage.—W. W.

EUPHORBIA coralloides.

Coral-like hairy Spurge.

MONOECIA Monandria.

GEN. CHAR. *Involucrum* of one piece, including several barren flowers and 1 fertile. *Barren flower* a single stamen without calyx or corolla. *Fertile flower* a single pistil without calyx (or rarely a very minute one) or corolla. *Germen* 3-lobed. *Styles* 3-cleft. *Caps* 3-seeded.

SPEC. CHAR. Umbel 5-fid, then 3-fid, and 2-fid. Universal bracteas ovate-oblong; the partial ones ovate; all villose. Glands of the involucrum 4, roundish. Leaves broadly lanceolate, minutely serrated at the apex, villose. Capsules nearly smooth, woolly. Seeds obovate, minutely punctate and reticulate-rugose.

SYN. Euphorbia coralloides. *Linn. Herb.—Amœn. Acad. v.* 3. 123. *Sp. Pl. v.* 1. 659. *Willd. Sp. Pl. v.* 2. 916. *Roep. Euph.* 60. *Reich. Fl. Excurs. no.* 4768. *Babington, in Linn. Trans. v.* 17. 461.

E. pilosa. *Hooker, Br. Fl. ed.* 1. 382. (excl. syn. Reichenb.) *Lindl. Syn. ed.* 2. 329. ?

E. pilosa α. *Hooker, Br. Fl. ed.* 3. 388. *ed.* 4. 326.

E. procera β. trichocarpa. *Koch. Syn.* 630.

ROOT scarcely more than biennial, (?) stem erect, with a few distant leafless branches, all bearing flowers; leaves broadly lanceolate, generally obtuse, very finely ser-

rated, particularly towards the point, covered with longish white hairs on both sides; umbel consisting of 5 branches, which are trifid and then bifid, and much lengthened as the flowering advances; general bracteas ovate-oblong; the partial ones ovate; all hairy on both sides. Glands of the involucrum 4, transversely oval. Fruit smooth, densely covered with woolly hair; seeds obovate, minutely punctured and covered with fine rugose reticulations, which are much more prominent near the sides.

This truly distinct species is distinguished from *E. pilosa* (*t.* 2787) most remarkably by its habit; and although its scientific characters are less easily observed, yet, in my opinion, they are fully sufficient, permanent and apparent, to separate it from all its allies. The feeble root, the widespread umbel, the obovate universal and ovate partial bracteas, all of which are hairy and almost woolly, the very nearly smooth woolly capsules, and the seeds covered with minute rugose reticulations, completely separate it from *E. pilosa*, in which the bracteas are all elliptical and glabrous, the capsule verrucose, and the seeds quite smooth.

E. procera, to which this plant is referred by Koch, appears, according to a specimen (*No.* 1292, *in Reich. Fl. Germ. Exsiccata*) from "Wien, bei Himberg," to be only a form of *E. pilosa*; and both of them probably ought to be referred to *E. palustris*, as has been pointed out by Mr. E. Forster in the *Linn. Trans.* v. 17. *p.* 533.

The specimens figured were obtained from Slinfold in Sussex, in July, 1838, through the kindness of W. Borrer, Esq., who first observed the plant there about five and thirty years before. It has not been noticed in any other part of Britain, and may have been introduced at Slinfold by the Rev. Mr. Manningham, the friend of Dillenius, and formerly rector of that parish.—C. C. B.

July 1st 1830

ONONIS reclinata.

Small spreading Rest-Harrow.

DIADELPHIA Decandria.

GEN. CHAR. *Calyx* 5-cleft, its segments linear. *Standard* large, striated. *Legume* turgid, sessile, few-seeded.

SPEC. CHAR. Herbaceous, viscid, pubescent. Stems ascending. Flowers axillary, solitary. Pedicels shorter than the leaf, flower, or pod, without bracteas. Corolla about equal to the calyx. Leaves ternate, leaflets obovate-cuneate, serrated at the tip. Stipules ovate. Pods cylindrical, reflexed, with 14—18 tuberculated seeds.

SYN. Ononis reclinata. *Linn. Sp. Pl.* 1011. *De Cand. Prod. v.* 2. 162.? *Bot. Gall.* 121.? *Sebast. et Mauri, Fl. Rom.* 236. *Lois. Fl. Gall. ed.* 2. *v.* 2. 114. *Hooker, Br. Fl. ed.* 4. 268.

ROOT small, annual, the whole plant covered with viscid glandular hairs. Stems ascending, round, slightly branched, 5—6 inches long. Leaves ternate, stalked; leaflets obovate-cuneate, serrated at the apex, the intermediate one largest; the lateral ones sometimes wanting on the upper leaves. Stipules broad, ovate, apiculate, dentate in the Galloway specimens, minutely denticulate or quite entire in those from Alderney. Peduncles shorter than the leaves, flowers, or pods, without bracteas. Sepals linear-lanceolate, acute, about as long as the pale pink striated corolla, but slightly shorter than the cylindrical reflexed pod. Seeds 14—18, reniform, tuberculated, slightly compressed.

There do not appear to be sufficient characters by which to distinguish our present plant from *O. Cherleri* of Linn. or *O. mollis* of La Gasca, and of Savi. Our plant is undoubtedly the *O. reclinata* of most authors, but De Candolle describes his plant as "pedunculis subbracteolatis," and I have therefore quoted him with doubt.

The first notice of this little species, as a native of Britain, was by Prof. Graham of Edinburgh, who discovered it on a steep bank close by the sea to the north of West Tarbert, Mull of Galloway, Scotland, in August, 1835, and the drawing was made from one of his specimens compared with fresh individuals gathered in Alderney, July, 1838. In this latter station, I was so fortunate as to discover it in the greatest plenty, scattered over an extensive sandy district in the northern part of the island. It is a singular fact that this plant should have been found on the west coast of Scotland, and in the Channel Islands, and yet not observed on any part of the shores of England.—C. C. B.

July 1st 1839.

HYPNUM incurvatum.

Small curved-leaved Hypnum.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fruit-stalks* lateral. *Peristome* double; outer one of 16 teeth; inner, a membrane cut into 16 equal segments, and usually with intermediate filiform processes. *Calyptra* dimidiate.

SPEC. CHAR. Stems creeping, variously subdivided. Branches pinnate, crowded, incurved at the apex. Leaves loosely imbricated, lanceolate-acuminate, entire, two-nerved at the base, incurved. Capsule ovate, cernuous. Lid conical, acute.

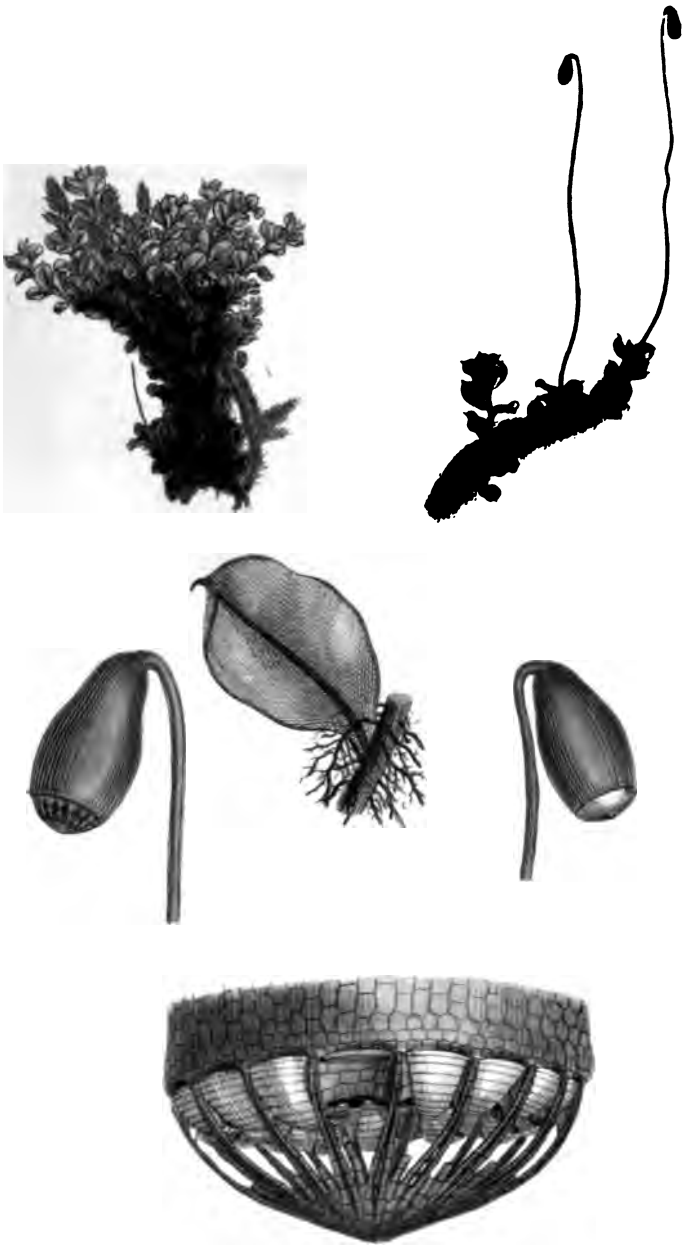
SYN. Hypnum incurvatum. *Schwaegr. Suppl. v.* 1. *P.* 285. *t.* 94. *Web. et Mohr. Bot. Tasch.* 342. *Bridel. Br. Un. v.* 2. 452.

ON the walls in the lower part of Helk's wood, Ingleton, and near Kendal, on the way to Ambleside, July, 1838.

Stems creeping, and forming broad circular patches, branched; branches subdivided in a pinnated manner, the ultimate divisions slightly curved upwards at the extremity. Leaves loosely imbricated, ovate-lanceolate, acuminate, concave and obscurely two-nerved at the base, entire at the margin, light green, those of the stem spreading; those at the extremity of the branches curved upwards. Perichætial leaves lanceolate, acuminate, nerveless, whitish, entire. Fruit-stalk smooth, about an inch long. Capsules ovate-oblong, cernuous, shining, of a pale olive-colour. Outer peristome of 16 yellowish-brown acute teeth; inner a membrane divided into 16 perforated segments with 2 or 3 in-

terposed cilia. Lid conical, short and acute, sometimes slightly acuminate, but never beaked. Calyptra dimidiate. There is an annulus at the mouth of the capsule.

This moss is considered to be truly distinct from all the varieties of *Hypnum cupressiforme*, which it nearly resembles; ripening its capsules at a very different season. The chief marks of distinction are found in the acute short lid and the different form of the leaf. There is besides a difference of aspect easily recognised by the practised observer.—W. W.



CINCLIDIUM stygium.

Dark Cupola Moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Peristome* double, outer of 16 inflexed teeth: inner, a dome-shaped membrane with 16 lateral apertures opposite to the outer teeth. *Calyptra* dimidiate. *Fruit-stalk* terminal.

SPEC. CHAR. . . . .

SYN. Cinclidium stygium. *Schwaegr. Suppl. v.* 1. *P.* 2. 85. *t.* 67. *Web. et Mohr. Bot. Tasch.* 484. *Bridel. Br. Un. v.* 1. 715.

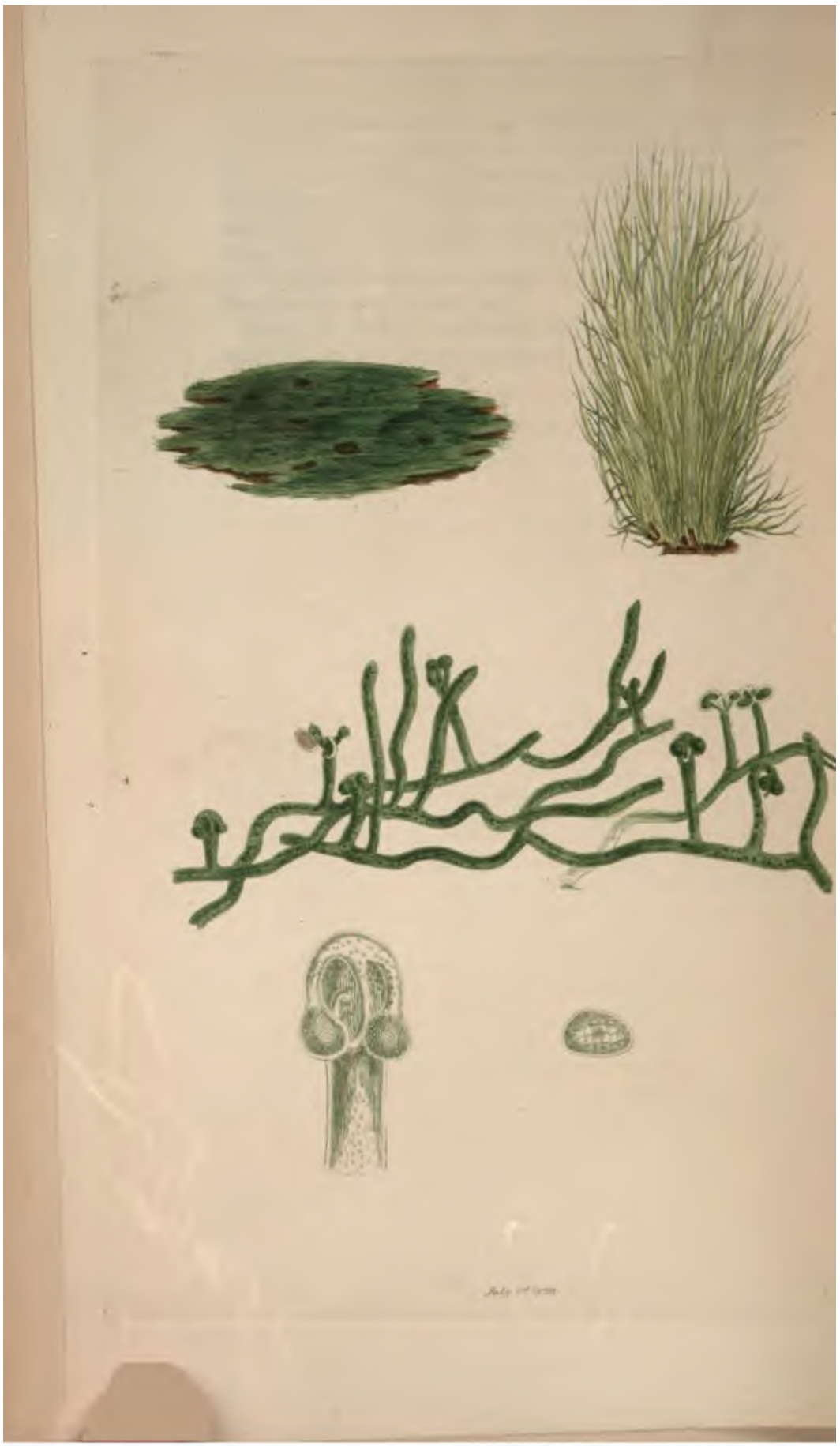
Mnium stygium. *Bruch et Schimper, Bryol. Eur. Mnium.* 17. *t.* 1.

THIS very interesting addition to our British mosses was discovered in June, 1836, by Mr. John Nowell of Scout, near Todmorden, in a swamp not far from Malham Tarn, Yorkshire, in considerable plenty: from his specimens, kindly sent to us, the figure is now given.

It grows in broad densely matted patches. Stem from 3 to 6 inches long and more with innovations, covered in almost every part with purplish closely interwoven radical fibres. Leaves spreading, broadly obovate and obtuse, decurrent at the base, entire and thickened in the margin, somewhat pointed at the apex by the protrusion of the dark-coloured nerve, lower ones of a dull purplish-brown, upper ones green, nearly resembling those of *Bryum punctatum*. Fruit-stalk either solitary or in pairs, from 2 to 3 inches long, dark red, curved at the summit, where it is thickened into a spurious apophysis. Capsule pendulous, oblong.

External peristome of 16 short, rather obtuse, barred, yellow teeth, whose points are bent inwards so as to penetrate the apertures of the inner peristome, which is of a brownish deep yellow colour, dome-shaped, supported on 16 carinated and laterally-toothed processes of stouter texture, intermediate with the outer teeth. Lid hemispherical, with a small central prominence. Calyptra shorter and narrower than the capsule, laterally torn.

Very like *Bryum punctatum*, but easily known by the short lid, and the very curious inner peristome. Only one species is known.—W. W.



VAUCHERIA cæspitosa.

Tufted Vaucheria.

CRYPTOGAMIA Algæ Inarticulatæ.

GEN. CHAR. *Threads* tubular, continuous. *Membrane* hyaline, filled with green granules. *Fruit* homogeneous coniocystæ.

SPEC. CHAR. Coniocystæ binary, terminal, with an intermediate horn-shaped process.

SYN. Vaucheria cæpitosa, *Agardh Syn.* 48. *DeCand. Fl. Fr. v.* 2. 63. *Lyngb. Hyd. Dan.* 81. *t.* 23. *Hook. Fl. Scot. Pt.* 2. 92. *Agardh Syst. Alg.* 174. *Duby Bot. Gall.* 974. *Fl. Dan. t.* 1726. *f.* 2. *Grev. Alg. Brit.* 194. *Hook. Eng. Fl. v.* 5. *Pt.* 1. 321.

Conferva amphibia. *Dillw. t.* 41.

Ectosperma cæspitosa, *Vauch. Hist.* 28. *t.* 2. *f.* 4.

IN springs, pools, &c. near the bank, and on the wood-work of mill dams; also on the soil of damp gardens, with the habit of *V. Dillwynnii.* Forming dense spongy tufts when growing in water, with a rich velvety green surface; a thin stratum when spreading over soil. Threads dichotomous or furnished with secund branches, dividing above into two very short stipitiform branchlets, each bearing a single depressed subglobose vesicle, with an intermediate straight or curved colourless hornlike process. In age the vesicles and their contents become colourless with the exception of a brownish spot in the centre.

Nothing can be more different than the habit of the aquatic form of this species from that which grows on

damp soil. I have represented in the Plate a portion of the terrestrial variety after it had been kept for a few days in a vessel of water. I did not succeed in making it fructify.

Agardh's notion that it is but a variety of *V. Dillwynnii* must have arisen from the examination of the form here figured, which in habit so exactly resembles that species.—M. J. B.

a. Portion of terrestrial form of *Vaucheria cæspitosa*; *b.* part of the same magnified; *c.* tip of one of the branches, with its vesicles and hornlike process; *d.* an old vesicle; *e.* a portion of the plant after being kept a few days in water.

Fig. 2.

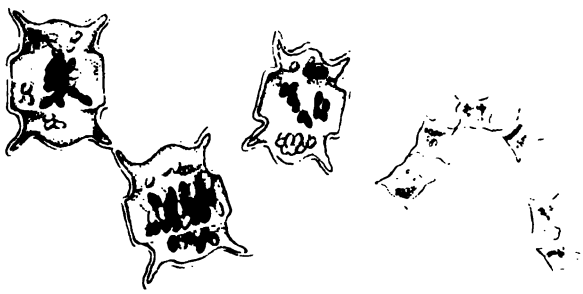
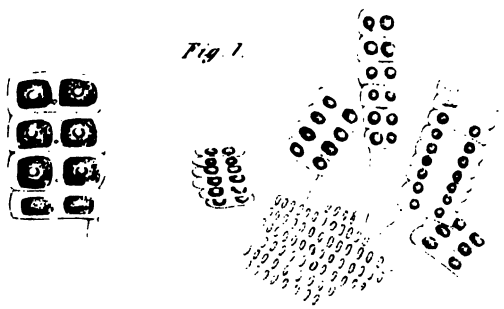


Fig. 1.



2842. (Fig. 1.)

ACHNANTHES brevipes.

Short-stemmed Achnanthes.

CRYPTOGAMIA Algæ Diatomaceæ.

GEN. CHAR. *Frustules* convex, united into a vexilliform or linear stipitate frond.

SPEC. CHAR. Stem short. Frustules with two spots.

SYN. Achnanthes brevipes, *Agardh Syst. Alg.* 1. *Fl. Dan. t.* 1840. 2. *Grev. Sc. Crypt. Fl. t.* 295. *Duby Bot. Gall.* 989. *Agardh Consp. Crit. Diat.* 59. *Hook. Eng. Fl. v.* 5. *Pt.* 1. 404. *Kutzing in Linn. v.* 8. 574.

Echinella stipitata. *Lyngb. Hyd. Dan.* 210. *t.* 70. *and t.* 59. *A.*

ON various Algæ in Autumn and Winter. Found in Appin, by Capt. Carmichael; at Margate, by the Rev. M. J. Berkeley.

Frustules 1—9, hyaline, oblong or elliptic, obtuse, sometimes curved, or even forming an obtuse angle joined into vexilliform or short linear fronds, attached by one angle to a short slender, sometimes flexuous, stem. The frustules, which are very variable in length, contain a cell of the same form, at either extremity of which is a golden yellow spot. These appear under moderate magnifiers globose or elliptic, but under high powers they are found to be conformable to the portion of the cell which they occupy, and their centre to be occupied by a distinct globose corpuscle. Between them at the base is a single colourless globule. In the basal frustule I have observed the globules to be wanting, but this is probably only accidental. There can be no doubt that the plant here figured is a form of *Achnanthes brevipes*, though

it is slightly different from those of Greville and Lyngbye. It does not, however, differ so much as the varieties β and γ of Kutzing. It is indeed clear from the individuals represented, which occurred on the same frond of Porphyra, that it is very variable. *Achnanthes multiarticulata* of Agardh, gathered at Venice, is probably a mere variety. The number of frustules in *A. brevipes* is by no means confined to two or three, as Agardh's specific character would intimate: Greville figures five, and Lyngbye speaks of six. Neither is any dependence to be placed on the crenulation of the outer border, which is quite obsolete in Dr. Greville's plant.—M. J. B.

a. A group of *Achnanthes brevipes* on *Porphyra vulgaris*, magnified; *b.* a frond, highly magnified.

2842. (Fig. 2.)

ODONTELLA aurita.

Woolpack Diatoma.

CRYPTOGAMIA Algæ Diatomaceæ.

GEN. CHAR. *Frustules* adhering alternately by the tooth-like angles, and forming a thread.

SPEC. CHAR. . . . . .

SYN. Odontella aurita, *Agardh Consp. Crit. Diat.* 56.

Diatoma auritum, *Lyngb. Hyd. Dan.* 182. *t.* 62. *Ag. Syst.* 6. *Fl. Dan. t.* 1957. *Hook. Engl. Fl. v.* 5. *Pt.* 1. 404. *Kutzing in Linn. v.* 8. 585.

ON various Algæ. In the Frith of Forth, Dr. Greville; Spring: at Margate, Rev. M. J. Berkeley; Winter. Golden yellow. Fronds consisting of a few oblong or nearly square frustules, adhering alternately by the auricular angles. Between the angles is a little convex projection. The transverse diameter, which is generally the least, is occupied by an oblong raised disk, which is only to be seen under high powers of the microscope. Each frustule contains a number of elliptic granules, which are at first disposed in rows, but soon become scattered. It is well observed in the English Flora, that the auricular angles give to the frustules the appearance of microscopic woolpacks.—M. J. B.

ERUCASTRUM incanum.

Hoary Mustard.

TETRADYNAMIA Siliquosa.

GEN. CHAR. *Pods* linear, with convex one-nerved valves. *Seeds* in one row, ovate or oblong, compressed. *Cotyledons* incumbent, conduplicate.

SPEC. CHAR. Leaves lyrate, hispid; cauline ones linear-lanceolate. Pods adpressed, turgid, with a short one-seeded beak. Stem much-branched.

Erucastrum incanum. *Koch. Syn.* 56. *Bab. Prim. Sarn.* 9.

Sinapis incana. *Linn. Amœn. v.* 4. 281. *Sp. Pl.* 934. *Jacq. Hort. Vind. t.* 169. *DeCand. Syst. v.* 2. 619. *Prod. v.* 1. 220. *Bot. Gall.* 52. *Reich. Fl. Excurs. n.* 4423. *Icones Fl. Germ. t.* 85. *f.* 4423. *Hook. Br. Fl. ed.* 4. *p.* 257.

THE present plant is referred to *Erucastrum*, instead of *Sinapis*, in conformity with the arrangement of the Brassiceæ, adopted from Koch, in the description of *Sinapis Cheiranthus*, 2821 of this work.

The root of this plant is fusiform and very strong, penetrating to a great depth. Stem erect, round, solid, much branched in a divaricating manner, clothed with short deflexed hairs, or rarely nearly glabrous, 2—3 feet high. Radical leaves stalked, lyrate, unequally toothed, the terminal lobe large, obtuse, roundish-oblong; intermediate ones nearly entire, oblong, stalked; upper ones undivided, linear-lanceolate, nearly sessile; all hispid, not properly

hoary. Peduncles very short, erect. Calyx glabrous, somewhat patent, coloured. Petals yellow. Two small glands between the smaller stamens and the pistil. Pods adpressed, glabrous or hairy, with a glabrous beak, which is one-seeded and often nearly as long as the valves; each valve with one straight dorsal nerve giving off several obscure anastomosing branches upon each side. Seeds ovate, compressed.

May not our pubescent-fruited plant be the *S. heterophylla* of DeCandolle (*Syst. v. 2. p.* 619.) and La Gasca (*Cat. Hort. Madr.* 1816. *p.* 20.)? for that plant does not appear, judging from description, to differ materially in any other respect.

The specimens figured were gathered on the sands of Braye Bay, Alderney, where it occurs in profusion, in July 1838, by the writer of this, who had noticed it on the Quenvais, Jersey, during the preceding summer (1837). Many years since it was observed by Mr. Borrer in a field at Patcham, Sussex, in company with *Centaurea solstitialis*, having probably been introduced with seed. In the Channel Islands it has all the appearance of being an aboriginal native.—C. C. B.

ARTHROLOBIUM ebracteatum.

Sand Joint-Vetch.

DIADELPHIA Decandria.

GEN. CHAR. *Legume* cylindrical, curved, of many close single-seeded joints, whose sides are equal. *Bracteas* none.

SPEC. CHAR. Stem filiform. Peduncles about equal to the leaves, 2–4-flowered. Stipules very minute. Leaves pinnated, with many pairs of equal elliptic-oblong leaflets, the lower pair remote from the stem.

Arthrolobium ebracteatum. *Reich. Fl. Excurs. n.* 3496. *Koch. Syn.* 189. *Hook. Br. Fl. ed.* 4. 273. *Bab. Prim. Sarn.* 29.

Astrolobium ebracteatum. *DeCand. Prod. v.*2. 311. *Bot. Gall.* 146.

Ornithopus ebracteatus. *Brotero Fl. Lus. v.* 2. 159. *St. Aman Fl. Agen.* 301. *Desvaux Fl. Anj.* 353. *Lois. Fl. Gall. ed.* 2. *v.* 2. 164. *t.* 13.

THIS genus was first constituted by Desvaux in his *Journal de Botanique*, "3. 121. *t.* 4. *f.* 10." and by some accident was changed by DeCandolle into *Astrolobium*, a mistake which has been followed by several compilers. It is distinguished from *Ornithopus* by its cylindrical pod, and the total absence of bracteas.

The writer of this was so fortunate as to discover this elegant little plant on the race-course, near Vale church, Guernsey, in August 1837, and noticed it during the summer of 1838 in great profusion and beauty on the

eastern side of Alderney. It was gathered in April, 1838, on Tresco, one of the Scilly Islands, in abundance, by Miss White, an inhabitant of those islands. Whatever opinion we may have had concerning its claims to be admitted into the English Flora as a native of the Channel Islands, this latter discovery, bringing it within the county of Cornwall, has shown it to be a true Briton.

Root fibrous. Stems numerous from the crown of the root, procumbent, simple, terete, filiform, bearing a few scattered adpressed hairs. Leaves alternate, pinnate, of four or five pairs and a terminal leaflet, the lowest pair distant from the stalk; leaflets oval, entire, pointed, glabrous above, with a few scattered adpressed hairs beneath, particularly on the strong prominent midrib, all equal in size. Bracteas wanting. Stipules minute. Peduncles about as long as the leaves, bearing from 1—3, usually 2, flowers. Flowers yellow, standard externally red. Calyx cylindrical, terminating in five acute segments, the upper ones connected nearly to their points. Legume cylindrical, curved, of numerous one-seeded indehiscent joints, rarely at all contracted at the articulations, rugose. Seeds oblong.

The specimens figured were obtained from the garden of W. Borrer, Esq., where they had grown from seeds collected in Guernsey, in 1837, compared with fresh Alderney specimens supplied by the writer.—C. C. B.

LAMINARIA Fascia, γ. latior.

Fillet-like Laminaria.

CRYPTOGAMIA Algæ Inarticulatæ.

GEN. CHAR. *Frond* coriaceous (rarely membranaceous) plane, expanded, without a midrib. *Fructification*; seeds or granules, forming dense sori, and imbedded in the thickened surface of some part of the frond.

SPEC. CHAR. Frond submembranaceous, linear, very narrow, undulated, very much attenuated at the base.

SYN. Laminaria fascia, *Ag. Sp. Alg. v.* 1. 122. *Syst.* 273.

Fucus Fascia, *Œder Fl. Dan. t.* 768. *Turn. Syn.* 186. *Roth Cat. fasc.* 2. *p.* 161.

β. tenuior. Ulva fascia, *Lyngb. Hyd. Dan.* 28.

γ. latior. Fucus fascia, *Alg. Damnon. no.* 157.

FRONDS tufted, 5—7 inches long, springing from a minute scutate base, thin, membranaceous, linear-lanceolate, very much attenuated below, in general rather obtuse; sometimes slightly dilated and emarginate as if from a tendency to become divided; green when young, acquiring when older a brown tint. The border is very slightly undulated. Our specimens were sent by the Rev. H. Penneck, who collected them in Penzance Bay, in April, 1839. They accord exactly with those published in the *Algæ Damnonienses*, gathered, but very rarely, at Sidmouth and Torbay, and referred by Mrs. Griffiths to *Fucus Fascia* of Œder and Turner. We have seen the plant in a dry state

only, and cannot therefore speak positively as to the degree of undulation of the border. It is evident, however, that it is much less undulated and curled than the plant of Œder, whose figure is considered very characteristic, and the frond is broader. It seems to be of a paler hue. The specimens, however, are clearly young.

On the whole, we have thought it right to consider it as a variety, trusting to Mrs. Griffiths for the correctness of the name. The structure is obscurely cellular, and there is no trace of fructification, unless a spotted appearance, observed by Mr. Sowerby, be an indication of it.—M. J. B.

ASPEROCOCCUS compressus.

Compressed Asperococcus.

CRYPTOGAMIA Algæ Inarticulatæ.

GEN. CHAR. *Frond* (simple) tubular, cylindrical or compressed, continuous, membranaceous. *Root* minutely scutate, naked. *Fructification*; distinct spots composed of imbedded seeds mixed with erect club-shaped filaments.

SPEC. CHAR. Frond flat, thickened at the edges, rather short, attenuated at both extremities, here and there slightly contracted, gelatinous.

SYN. Asperococcus compressus. *Hook. Eng. Fl. v. 2. pt. 1. 278. Alg. Damnon. no. 8.*

FOUND in Penzance Bay, in April, 1839, by the Rev. H. Penneck, who kindly supplied fresh specimens for examination. It has also been found on the Devonshire coast in several places by Mrs. Griffiths, and near Shoreham, Sussex, by Mr. Borrer.

Fronds tufted, from 5—10 inches long, springing from a minute scutate base, much attenuated below, and occasionally slightly so above, but often of nearly the same breadth for some distance to the very extremity, which is obtuse. It is flat, consisting of a double membrane united by a thin layer of cells. Fructification in scattered spots, consisting of slightly raised sori of subelliptic spores. The structure of the membrane is cellular. The cells are often arranged with great regularity, and contain four granules, as in *Tetraspora*: occasionally the cells are less regular, and the nucleus is undivided. It adheres firmly to paper when dry.

We follow Mrs Griffiths in placing this plant in the genus *Asperococcus* rather than *Punctaria*, with which indeed its fructification accords, there being no club-shaped bodies, and to which it bears the same relation as *Ulva Linza* to *Enteromorpha*.—M. J. B.

Nov.r 1st 1850.

POTAMOGETON longifolius.

Long-leaved Pondweed.

TETRANDRIA TETRAGYNIA.

GEN. CHAR. *Flowers* sessile upon a spike which issues from a sheathing bractea. *Perianth* single, of 4 scales. *Anthers* sessile, opposite to the scales of the perianth. *Pistils* 4, which become 4 small nuts. Embryo curved.

SPEC. CHAR. Leaves all elongate, lanceolate, attenuated below, apiculate, entire. Stipules winged. Nut —. Spike few-flowered; flowers subverticillate, distant. Peduncle very long, thickened upwards.

SYN. Potamogeton longifolius. *Gay in Gaud. Fl. Helv. v.* 1. 473. *Syn.* 123.

STEMS long, with long, slender, scarcely divided branches, rising from deep water, round, smooth. Leaves opposite, on the branches alternate, all elongated, lanceolate, entire, apiculate, attenuated below into a very short petiole, all membranous, with several longitudinal nerves and rather distant transverse reticulations. Stipules green, lanceolate, with two narrow longitudinal wings. Spikes about an inch long, with few subverticillate, distant flowers, upon a very long (6—8 inches,) curved, much thickened, solitary peduncle. The fruit has not yet been noticed, and is a great desideratum.

This curious species was accidentally gathered in August, 1835, in Lough Corrib, Galway, Ireland, by my friend Mr. John Ball; and during the summer of 1838 the same

gentleman detected it, in deep water, near the larger island in Rydal Water, Westmoreland. It is nearly allied in appearance to *P. prælongus*, but has not the amplexicaul and hood-tipped leaves of that plant. It has also been confounded with *P. lucens*; but exclusive of the proportionate size of its leaves, it has no serratures on their margins, nor is the spike densely flowered as in that well-known plant. The publication of these two new British species will, it may be hoped, procure for this most interesting genus that attention from English botanists which it so well deserves. There can be little doubt that several species still remain to be detected by careful observers, more particularly in the mountain countries, and in Ireland. —C. C. B.

2848.

POTAMOGETON plantagineus.

Plantain-leaved Pondweed.

TETRANDRIA Tetragynia.

GEN. CHAR. *Flowers* sessile upon a spike that issues from a sheathing bractea. *Perianth* single, of 4 scales. *Anthers* sessile, opposite to the scales of the perianth. *Pistils* 4, which become 4 small nuts. *Embryo* curved.

SPEC. CHAR. Leaves all membranous, stalked, rather opake, blunt, entire; lower ones oblong; upper elliptical. Nuts minute, obliquely-ovate, rounded on the back (when fresh). Spike slender, cylindrical, densely-flowered, on a long terete peduncle.

Potamogeton plantagineus. *Ducros in Gaud. Fl. Helv. v.* 1. 471. *t.* 3. *Rœm. and Schult. v.* 3. 504. *Reich. Excurs.* 9. *Bert. Fl. Ital. v.* 2. 232. *Bluff. and Fing. ed.* 2. 268. *Bab. Prim. Fl. Sarn.* 99.

P. coloratus. *Hornem. Fl. Dan.* 1449. *Cham. in Linnæa, v.* 2. 194. *t.* 5. *f.* 15.

P. Hornemanni. *Meyer Chl. Hanov.* 521. *Koch Syn.* 674.

STEM creeping below, semetimes sending out long scions from its upper axils, cylindrical, contracted at the joints, striated. Leaves oblong-ovate or lanceolate, alternate, on long stalks, the upper ones ovate, or even orbicular, or cordate, and sometimes nearly sessile, opposite, all obtuse, membranous, entire, not at all coriaceous, many-nerved and beautifully reticulated with transverse veins, the nerves

prominent on the under surface. Stipules membranous, whitish-green, soon disappearing, oblong. Spikes cylindrical, elongated, about an inch long, densely flowered, on long, cylindrical, slightly thickened, straight or slightly curved, solitary stalks, usually but not always rising above the leaves. Nuts small, half as large as those of *P. natans*, obliquely ovate; the back rounded and obtuse when fresh, but acutely keeled, with two less conspicuous lateral ridges, when dry.

This beautiful plant inhabits deep peaty pits and ditches, and is probably far from rare in such places. The specimens figured were gathered in peat-pits in the Grande Mare, a marshy district at Vazon Bay in Guernsey, in August, 1837, by the writer of this, who has, since his return to England, detected it in Sir J. E. Smith's herbarium under the name of "*P. natans* ?" from Diss, Norfolk, Mr. Turner, and S. of Scotland, Dr. H. Thompson. He has also gathered it in the fens of Cambridgeshire (1830). Mr. W. W. Sanders finds it at Ham Ponds, Kent; Dr. R. D. Thompson, at Ferney-rig Marsh, Berwickshire; and Mr. J. A. Power, at Royden Fen, Norfolk. It has usually been confounded with *P. natans*, from which it is distinguished by its beautifully diaphanous reticulated leaves, none of which are coriaceous, and its much smaller fruit. It is more nearly allied to *P. oblongus*, from which its leaves, as well as the acutely keeled back of its fruit when dry, clearly distinguish it; in that plant the fruit is always obtuse.—C. C. B.

2849.
Dec.r 1st 1840.

POTAMOGETON oblongus.

Oblong-leaved Pondweed.

TETRANDRIA Tetragynia.

GEN. CHAR. *Flowers* sessile upon a spike which issues from a sheathing bractea. *Perianth* single, of 4 scales. *Anthers* sessile, opposite to the scales of the perianth. *Pistils* 4, which become 4 small nuts. *Embryo* curved.

SPEC. CHAR. Leaves all stalked; upper ones coriaceous, floating, oblong-elliptical; lower linear-lanceolate. Nuts minute, with their back always obtuse and rounded. Spike slender, cylindrical, densely-flowered, upon a long terete peduncle.

Potamogeton oblongus. *"Viv. Ann. Bot. v.* 1. *par.* 2. 162." *Cham. et Schl. in Linnæa, v.* 2. 214. *t.* 6. *f.* 19. *Fries Nov. Fl. Suec.* 29. *Hooker Br. Fl. ed.* 1. 76. *Bertol. Fl. Ital. v.* 2. 225. *Leight. Fl. Shrop.* 77. *t.* 4. *fig. Bab. Prim. Fl. Sarn.* 99.

P. natans, ε. *Mert. and Koch Deutsch. Fl. v.* 1. 839.

STEMS creeping below, solid, nearly cylindrical. Lower leaves linear-lanceolate, floating ones coriaceous, oblong-elliptical, somewhat acute, shorter than their petioles, usually opposite, many-nerved, and reticulated between the nerves. Stipules large, membranous, narrowed upwards but obtuse, many-nerved. Spikes cylindrical, dense, many-flowered, upon long cylindrical, slender, not thickened,

nearly straight stalks, about as long as the leaves. Nuts small, half as large as in *P. natans*, obliquely ovate, the back rounded and obtuse, both when fresh and when dry.

This plant, which has been unaccountably excluded from the last (4th) edition of Hooker's *British Flora*, is far from being an uncommon species in wet ditches, small streams, ponds, and bogs. The specimens figured were gathered upon Haldon, in Devonshire, by Mr. Borrer and myself, in July, 1839; and I possess it from Shropshire, Leicestershire, Sussex, Denbighshire, and Mayo. It is distinguished from *P. natans*, with which it is probably confounded by most botanists, by the form and size of its fruits as well as by other characters. It is shown to be the *P. parnassifolius* of Schrader, (*P. natans*, ε. of the *Deutschland's Flora*,) by a specimen named by Mertens in Mr. Borrer's herbarium. In my *Primitiæ Floræ Sarnicæ* this synonym is incorrectly referred to *P. plantagineus*.—C. C. B.

2850

CUSCUTA Epilinum.

Flax Dodder.

PENTANDRIA Digynia.

GEN. CHAR. *Calyx* 4–5 cleft, inferior. *Corolla* 4–5 cleft, with ("or without") an equal number of membranous scales placed within the stamens. *Caps.* bursting all round at the base, 2-celled, cells 2-seeded.

SPEC. CHAR. Heads of flowers nearly sessile, subtended by an ovate blunt bractea. Scales broad, palmate subsexfid, closely adpressed to the ventricose tube of the corolla. Calyx fleshy and succulent. Sepals deltoid below, nearly as long as the corolla.

Cuscuta Epilinum. *Weihe in Boeningh. Prod. Fl. Monast.* 75. *Reich. Iconog. t.* 500. *Fl. Excurs.* 586. *Koch Syn.* 495. *Hooker Br. Fl. ed.* 4. 109. *Mert. and Koch Deutsch. Fl. v.* 2. 331. *Wimm. and Grab. Fl. Siles. v.* 1. 247. *Leight. Fl. Shrops.* 125.

FOUND in August, 1836, on cultivated flax, in a field adjoining the road near Croesmere, 3 miles south of Ellesmere, Salop, and also in August, 1839, at Trelydan Hall, near Welsh Pool, Montgomeryshire, on both occasions by Mr. J. E. Bowman, through whose kindness the specimens figured were obtained from the latter station.

Although not previously regarded as a native of Britain, it is probable that all the specimens of *C. europæa*, said to have been gathered upon flax, will prove to belong to this

species. This, indeed, is the fact in the case of specimens received from the neighbourhood of Edinburgh, by my friend Mr. W. A. Leighton, the author of the valuable *Flora of Shropshire*.

Mr. Bowman says, "Root originally growing in the soil, but soon shrivelling up when the plant has fixed itself on the stalk, and become strictly parasitical. Stem generally simple, though occasionally branched above the heads, leafless, wiry, climbing from west to east, throwing out small warty excrescences from the side in contact with the flax. Heads globular, on thick short lateral peduncles, containing from 6 to 12 greenish-white flowers, and subtended by a broad, obtuse, membranous, marcescent bractea. Individual flowers sessile, without bracteas. Calyx succulent, crystalline, white or cream-coloured; segments erect with a thick broad keel, or deltoid, alternate with those of the corolla, which it envelopes. Corolla membranous; tube globose; segments somewhat succulent, erect, finally spreading, the length of the calyx. Stamens shorter than the limb, inserted between the segments round the orifice of the tube, united with it below; anthers as long as the free portion of the filaments. Scales one underneath each stamen, geminate or deeply bifid, somewhat varying in size and shape; lobes divaricate irregularly and deeply cut, the fimbria 3 to 6, each in the fresh flower tipped with a pellucid gland, which soon becomes absorbed, very delicate and transparent, and connected together by a thin membrane, the upper portion of which is free. The scales are situated near the bottom of the tube, their tips not reaching so high as the insertion of the stamens. Styles 2, filiform, not capitate, divergent. Germen depressed. Capsule the same shape, 2-celled; in each 2 seeds, which are large, becoming subtriquetrous from mutual pressure during growth. Embryo spiral, monocotyledonous."

By Bartling and Lindley the embryo is considered as acotyledonous, and for that and other causes, such as the fleshy, not mucilaginous albumen, the scales in the throat of the corolla, &c., they have rightly separated this genus from *Convolvulaceæ*, and formed a new order under the name of *Cuscutaceæ*. Endlicher also has separated this genus from

Convolvulaceæ, and appears to consider it as the type of a distinct order, although he has not raised it to that rank in his work. He describes the embryo as "filiformis, indivisus, circa albumen carnosum spiraliter convolutus." In *Convolvulaceæ* the albumen is smaller in quantity and mucilaginous, the 2 cotyledons foliaceous and corrugated.

"*C. Epilinum* differs essentially from *C. europæa* in its pedunculated heads, in the globular tube of the corolla even before the enlargement of the germen, in the insertion of the stamens above the tips of the scales, and in the lobes of the scales being divergent and fimbriated." Also by the nearly equal length of its calyx and corolla.

The absence of bracteas to the individual flowers is contrary to Smith's generic character, and their presence under each of the heads is opposed to the specific character given by all the authors to which I have access. I do not find the general bractea present on any of the heads of specimens distributed by Reichenbach as *C. Epilinum* (No. 19. of his *Fl. Germ. Exsic.*), and I have Mr. Bowman's authority for stating that they are sometimes wanting on some of the heads, even small young ones, although present upon others on the same specimen, of the English plant. It is quite possible that they may exist in Reichenbach's specimens, although I cannot see a trace of them; for "in old specimens they often lie concealed between the stem and the head, and being shrivelled, and the purple colour faded, they are with difficulty distinguishable." The scales and all other parts of the plants correspond in the German and Welsh specimens, and I feel no doubt of the species being identical. Mr. Bowman has noticed considerable difference between the scales of the Croesmere and Welsh Pool plants. The latter are represented on the Plate, and in the former I find (from the examination of dried specimens) that the scale is often much more decidedly bifid, each branch having more numerous segments than in the other specimens; but it is sometimes scarcely bifid, still retaining the numerous segments, or, according to Mr. Bowman, at times "blunt and nearly entire." I have been unable to prepare an outline of these organs, on account of the imperfect state of my Croesmere specimens; but that is of the less consequence,

as the figure given is sufficiently characteristic of the species, and the characters derived from the scales depend upon their general form and direction relatively to the corolla, not upon their minute subdivisions; these vary, but the others are permanent.

In the figure of *C. europæa* at *t.* 378, and also in that given by Hooker in *Fl. Lond. N. S. t.* 67, the scales are omitted, although they are always present in that species; and indeed it is probable that they exist in every species of the genus. In *C. europæa* they form an internal membranous transparent whorl, closely adpressed to the tube of the corolla, each being connected with its neighbour below, and terminating above in two long acute transparent points. These parts are very imperfectly represented in *C. Epithymum*, *t.* 55. of this work.

In the above description the heads of flowers are said to be pedunculated, and our present plant is distinguished from *C. europæa* by that character amongst others; they appear to me to be equally sessile, or rather very slightly stalked, in both plants.—C. C. B.

2451
Dec.r 1st 1840.

2851.

HYPERICUM linariifolium.

Toad-flax-leaved St. John's Wort.

POLYADELPHIA Polyandria.

GEN. CHAR. *Calyx* 5-partite or 5-leaved. *Petals* 5. *Capsules* 1- or 3-celled, many-seeded. *Stamens* in 3 or 5 bundles.

SPEC. CHAR. Stem terete. Flowers terminal, cymose. Sepals lanceolate, acute; their margins with numerous black spots and glandular serratures. Leaves linear, obtuse, their margins revolute. Stamens about 30. Styles half as long as the capsule.

SYN. Hypericum linarifolium. *Vahl Symb. v.* 1. 65. *Bab. Prim. Fl. Sarn.* 20.

H. linariæfolium, *St. Am. Fl. Agen.* 316.

H. linearifolium. *DeCand. Prod. v.* 1. 552. *Bot. Gall.* 98. *Loisel. Fl. Gall. v.* 2. 168. *Desv. Fl. Anj.* 286. *Hook. Br. Fl. ed.* 4. 282.

IT gives us great pleasure to be able to present to the purchasers of this Supplement a figure of a plant so little known as that before us, which appears to be confined to the extreme western parts of Europe, not having been noticed, it is believed, in any country except Portugal, the western provinces of France, Jersey, Devonshire, and Cornwall. In a dried state it presents very much the appearance of a marked variety of *H. humifusum*, *t.* 1226, but it will not be confounded with that species when seen in a living state.

Stems erect, or slightly procumbent at their bases, terete, from six inches to a foot or more in length. Leaves linear, obtuse, their margins revolute, with a marginal row of black

spots beneath; lower leaves shorter, lanceolate and obtuse, the lowest of all often nearly ovate; these latter leaves usually want the reflexed margin. Flowers terminal, cymose, large and handsome, fully twice as large as those of *H. humifusum*. Calyx deeply divided into 5 lanceolate, acute segments, which are fringed with stalked glands, almost amounting to serratures, and have several rows of black dots on the underside near their margins. Petals yellow, broadly ovate, obtuse, fringed with sessile black glands in their upper part. Stamens combined by the bases of their filaments into 3 bundles, each of which almost always consists of 10 stamens, or 30 or more in all: in *H. humifusum* the writer of this has never observed more than 5 in each bundle, and sometimes less, or 15 or less in all, and he suspects that the representation of a larger number in *t.* 1226. has originated in a mistake. Germen ovate, yellow, with 3 long straight styles. Capsule ovate-lanceolate, one third longer than the calyx, 3-celled, with numerous seeds; usually quite covered by the persistent faded corolla.

The writer had the good fortune to detect this beautiful plant upon the slope of a hill below La Crete guardhouse, St. Catherine's Bay, Jersey, in July 1837, and also, during the summer of 1839, on the slopes of the south side of Cape Cornwall, nearly the most westerly point of England. The specimens figured were sent from the latter place in July. It has also been found, as we learn from a notice in *Annals of Nat. Hist. v.* 6. *p.* 76, by the Rev. Thomas Hincks, of Cork, "among granite rocks near the banks of the Teign, Devon."

H. humifusum differs from this by its prostrate, slightly 2-edged stems, oblong, obtuse and mucronate sepals, oval-oblong leaves, smaller flowers, fewer (about 15) stamens, broader capsules, and shorter styles.—C. C. B.

2852.

ARENARIA norvegica.

Norwegian Sandwort.

DECANDRIA Trigynia.

NAT. ORD. *Caryophyllaceæ.*

GEN. CHAR. *Calyx* 5-leaved. *Petals* 5, entire. *Capsule* 1-celled, many-seeded.

SPEC. CHAR. Stems cæspitose, as well as the terminal or axillary peduncles, slightly downy. Stipules none. Leaves spathulate-obovate, bluntly pointed, fleshy, nerveless, imbricated in four rows. Calyx-leaves shorter than the corolla, bluntly pointed, obscurely 3–5 nerved, as well as the leaves, subglabrous. Capsule 6–7-valved.

SYN. Arenaria norvegica, *Gunnerus Fl. Norveg. No.* 1100. *t.* 9. *f.* 7–9. *Fl. Dan. t.* 1269.

A. multicaulis. *Wulf. in Jacq. Collect. v.* 1. 248. *t.* 17. *f.* 1. *Willd. Sp. Pl. v.* 2. 719. *DeCand. Flor. Franc. v.* 4. 783. *Suter Fl. Helvet. v.* 1. 265.

A. ciliata β. *Willd. Sp. Pl. v.* 2. 719. *Pers. Synops. v.* 1. 502. *Wahl. Veget. et Climat. Helv. Sept.* 85. *Ejusd. Fl. Suecic.* 283. *De Cand. Bot. Gal.* 86. *Reichenb. Fl. Germ. Excurs. v.* 2. 791.

ROOT annual, fibrous. Stem much branched, procumbent, sometimes rooting, cæspitose, 1 to 3 inches high, slightly downy, covered towards the root with the withered bases of the leaves. Leaves opposite, decussating, rather crowded, longer than the internodes, fleshy, nerveless, glabrous, spathulate-obovate, bluntly pointed, without stipules.

Flowers produced from May to October; their peduncles twice as long as the leaves, slightly pubescent, axillary and terminal, solitary, simple, 1-flowered. Calyx 5-phyllous, persisting, obscurely 3–5-nerved, subglabrous, somewhat truncated below; segments lanceolate-ovate, bluntly pointed, rather more than half as long as the peduncle, herbaceous, with a very narrow membranous edge, obscurely 3–5-nerved, subglabrous. Petals nearly twice as long as the calyx, rounded at the apex. Stamens shorter than the petals; anthers kidney-shaped. Styles shorter than the stamens. Germen shining, ovate. Capsule 6–7-valved, equal in length to the calyx. Seeds somewhat kidney-shaped, dark brown, shining and warted.

I think there is considerable difficulty about the synonyms of this species, and this difficulty can scarcely be removed without an attentive comparison of a fuller series of specimens than I have access to. The specific distinction between the plant now described and *A. ciliata* seems evident enough in its want of cilia, its more closely imbricated, nerveless, fleshy leaves, which are more pointed at the apex and less attenuated at the base; in its broader, blunter, more herbaceous, subglabrous, calyx-segments, which have much less of a prominent middle-rib. The specific diversity of *A. ciliata* and our *A. norvegica* seems to me then, sufficiently obvious; but whether this is always what is meant by *Arenaria multicaulis* or *A. ciliata* β. of authors, I do think doubtful. DeCandolle in *Fl. Franc.* described as a distinct species *A. multicaulis*, which has been considered as a synonym of *A. norvegica*; but in his subsequent works he reduces *A. multicaulis* to a variety of *A. ciliata*. Persoon also describes *A. multicaulis* as a species; and the plants of these authors are probably identical, for they both refer to *Jacq. Collect.*; but I am doubtful whether they are the same with ours, for Persoon states that the leaves are ciliated. Wahlenberg, Sprengel, Horneman, and Reichenbach, unite them under the name of *A. ciliata*. Without specimens, however, it is impossible to know certainly whether these authors have seen a plant quite corresponding with ours. The only specimen which I have seen quite like ours, is one in the Herbarium of Sir William

Hooker, picked by Sir George Mackenzie in Iceland. Few things can be more unlike it than the figure in *Flora Danica*, which has the narrow leaves, straggling form, and long peduncles, that, according to Wahlenberg, belong to the higher Alps, but, combined with these, the small flowers, which he says are found in lower elevations. Our plant is remarkably compact, the leaves short and closely imbricated, and the flowers large and handsome. The specific character which I have drawn up, is taken from it and the Iceland specimen in Sir William Hooker's Herbarium, which are in all respects identical, without reference to any of the other forms with which the name *A. ciliata* is loaded, none of which seem to me to connect our plant with the true type of that species. It was first gathered on the 27th of April 1837, on a range of Serpentine hills, 30 or 40 feet above the level of the sea, to the north of Balta Sound, in Unst, the most northern of the Shetland Islands, by the son of Dr. Edmonstone of that place, who (then only eleven years of age) shows remarkable powers of observation in Natural History.—R. G.

In a letter from the youthful discoverer of this interesting plant, accompanied by an excellent description, it is observed, that the region of the Serpentine upon which it is found extends about a mile in length and about half that distance in breadth; it fronts the south and south-east; the ground on which it grows is extremely barren, the vegetation consisting of a few scattered tufts of *Statice Armeria*, *Cerastium latifolium*, and *Arabis petræa*. We are indebted to Dr. Graham for the coloured drawing from which the figure is principally engraved.—Editor.

ALYSSUM calycinum.

Calycine Alyssum.

TETRADYNAMIA Siliculosa.

NAT. ORD. *Cruciferæ* (*Brassicaceæ*).

GEN. CHAR. *Silicula* circular or elliptical, valves being flat or convex in the centre. *Seeds* 2–4 in each cell, compressed, sometimes surrounded with a membranous border. *Calyx* equal at the base. Some of the *stamens* toothed.—*DeCand.*

SPEC. CHAR. Annual. Stems herbaceous, spreading. Leaves linear-lanceolate, hoary. Calyx persistent. (Corolla yellow, whitening with age.) Seed-vessels round, subemarginate, pubescent, four times longer than the style.—*DeCand.*

SYN. Alyssum calycinum, *Lin. Spec. Pl.* 908. *Br. in Hort. Kew. v.* 4. 94. *Willd. Spec. Pl. v.* 3. 464. *Pers. Synops. v.* 2. 192. *DeCand. Syst.* 2. 315. *Ibid. Prodr. v.* 1. 163. *Spreng. Syst. v.* 2. 861.

Clypeola alyssoides. *Lin. Spec. Pl. ed.* 1. 652. *Crantz Stirp. Austriac.* 19.

ROOT annual. Stems several, ascending, simple or branched, leafy, and, as well as the whole plant, hoary with stellate pubescence. Leaves linear-spathulate (scarcely lanceolate), erect. Racemes terminal, very long, crowded. Calyx about as long as the pedicel; its leaflets lanceolate, erect, persisting, clothed with longer hairs than the rest of the plant. Flowers small. Petals yellow, longer than the calyx, marcescent, and becoming white, linear, emarginate. Silicle circular, slightly notched, having a pubescence similar to

that on the rest of the plant. Style persisting, and scarcely projecting beyond the notch. Seeds generally two in each loculament, bordered.

This plant has incomparably better right to be introduced into the British Flora than many others which have even lately obtained admission there. It is very possible it may have been originally introduced with corn from the continent of Europe; but of this we have no proof, and certainly it is perfectly established in several places in Scotland, where the plough has not been for many years, and, I believe, in England. It was first discovered June 12, 1835, at Dirlton Links, a common near the sea-shore, about twenty miles to the eastward of Edinburgh, by Mr. James Macaulay, and I have since seen it there in several years, large in wet, dwindling down to an inch in height in dry seasons, but always perfecting its seeds and maintaining its ground, in spite of variations of climate, of the birds which prey upon it, and, what is worse, of its facility of access to the botanical collectors of Edinburgh. In two similar situations in the neighbourhood of Arbroath it was found in abundance by Dr. M'Nab. Its period of flowering is May and June.—R. G.

2854.

MYRIOPHYLLUM alterniflorum.

Alternate-flowered Water-Milfoil.

MONŒCIA Polyandria.

GEN. CHAR. *Barren Fl. Calyx* 4-partite. *Petals* 4. *Stamens* 8. *Fertile Fl. Calyx* 4-fid; tube tetragonal, adhering to the germen. *Petals* 4, minute. *Stigmas* 4, sessile. *Nuts* 4, sessile, 1-seeded.

SPEC. CHAR. Sterile flowers alternate, about 6, in a leafless spike. Spike nodding when in bud, afterwards erect. Fertile flowers in axillary whorls of about 3 flowers, at the base of the spike.

SYN. Myriophyllum alterniflorum. *DeCand. Fl. Fr. Suppl.* 529. *Bot. Gall.* 190. *Reich. Fl. Excurs.* 633. *Koch. Syn.* 244. *Loisel. Fl. Gall. v.* 2. 322. *Drej. Fl. Hafn.* 303. *Reich. Fl. Exsic. No.* 774! *Bab. Prim. Fl. Sarn.* 36. *Leight. Fl. Shrops.* 471.

THE subject of the present plate has doubtless been often overlooked as a small form of *M. spicatum*, a plant to which it certainly bears a great resemblance, but from which it is clearly distinguishable when submitted to examination. In that species the young spikes, before the flowers open, are erect, in the present they are nodding; in that the male flowers are whorled, here they are alternate; there the lower whorls of female flowers are subtended by small serrate bracteas, which are scarcely longer than the flowers; in this the same whorls are placed in the axils of the upper leaves, which, although smaller than the other leaves, are yet much longer than the flowers, and deeply pectinated.

Stems numerous, branched, floating near to the surface of the water in stagnant ponds or ditches, or in quiescent recesses of streams, and raising its small spikes of flowers just above the surface.

The leaves, placed in whorls of 3, sometimes 4, are deeply and pinnately divided into capillary, distant, alternate or opposite segments. Spikes small, nodding until the flowers open, afterwards erect, consisting of about 6 alternate male flowers, and a whorl of 3 or 4 female ones at its base in the axils of the uppermost leaves. The male flowers have a deeply divided calyx, with 4 acute, triangular segments; 4 lanceolate, obtuse, yellow petals, marked on the back with 3 longitudinal red lines, many times longer than the calyx, and just covering the anthers. Anthers linear, emarginate, yellow, with red tips and a reddish tinge down the centre, about three times as long as their filaments. Germen abortive. Each flower subtended by a lanceolate, entire or serrated bractea, which does not equal it in length. Female flower consisting of 4 oblong-ovate, distinct pistils, closely enveloped by the tubular calyx bearing numerous prominent glands. Sometimes one or two female flowers are placed alternately above the usual whorl, in which case they are subtended by a bractea in the same manner as the males.

The whole plant is much smaller and more elegant than *M. spicatum*. It has been gathered in Guernsey by myself; in St. Leonard's Forest, Sussex, by Mr. Borrer (by whom the specimens figured were forwarded); at Whixhall Moss, about six miles from Ellesmere, and also near Colemere, both in Shropshire, by the Rev. A. Bloxam; in the Isle of Wight, by Dr. Bromfield; Braid Hills, near Edinburgh, by Dr. J. H. Balfour; and in a small lake near to Snowdon, by H. C. Rothery, Esq.—C. C. B.

2855.

BRYUM Ludwigii.

Ludwig's Thread-Moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fruit-stalk* terminal. *Peristome* double; outer, of 16 teeth; inner, a membrane divided into 16 equal segments, usually with intermediate filiform processes. *Calyptra* dimidiate.

SPEC. CHAR. Stems ascending. Leaves ovate, concave, obtuse, flaccid, entire, their nerve ceasing below the apex. Capsule pendulous, sub-pyriform. Lid conical, obtuse.

SYN. Bryum Ludwigii. *Schwaegr. Suppl. I. v.* 2. 95. *t.* 68. *Bridel. Br. Univ. v.* 1. 647. (*not Mougeot and Nestler. Stirp. Crypt. no.* 831.) *Hooker Engl. Fl. v.* 5. *Pt.* 1. 59.

FROM the Clova Mountains in August 1836.

Stems crowded, two inches long, procumbent below, erect above. Leaves broadly ovate, rather obtuse, distant, lax, and spreading, concave, pellucid, slightly serrulate at the apex, singularly decurrent at the base, distinctly reticulated; the nerve not very strong, extending nearly to the summit: on the fertile stem the leaves are more approximated; and deeply tinged with red. Perichætial leaves narrowly lanceolate, the margin much recurved. Capsule oblong and somewhat pyriform, pendulous, fur-

nished with an annulus beneath the margin of the lid, which is more obtuse than usual in the allied species, and nearly hemispherical. Perigonia terminal, disciform.

This species is remarkable for its lax, obtuse, pellucid foliage, which is glossy, and scarcely twisted when dry.—W. W.

2856.

BRYUM annotinum.

Summer Thread-Moss

CRYPTOGAMIA Musci.

GEN. CHAR. *Fruit-stalk* terminal. *Peristome* double, outer, of 16 teeth ; inner, a membrane divided into 16 equal segments, usually with intermediate filiform processes. *Calyptra* dimidiate.

SPEC. CHAR. Stem very short. Leaves crowded, erect, lanceolate, nerved, subserrulate at the apex. Capsule oblong-pyriform, pendulous. Lid convex, apiculate.

SYN. Bryum annotinum. *Hedw. Sp. Musc.* 183. *t.* 43. *Bridel Br. Un. v.* 1. 662.

FREQUENT in moist sandy places, but usually barren. Our specimen was gathered in Winwick Stone Delph, near Warrington, in May 1833.

Fertile stems very short. Barren shoots longer, bearing club-shaped fingered gemmæ in the axils of the leaves (figured by Hedwig, and marked a. a. in his plate). Leaves on the fertile stem smallest at the base, where they are ovate, gradually longer and narrower higher up, uppermost linear-lanceolate, yellowish green, entire, except at the very summit, nerved throughout, margin slightly recurved. Perichætial leaves longer than the rest, with more strongly recurved margins, serrulate towards the apex. Leaves on the barren shoots rather distant, moderately spreading, narrowly ovate, nerve ceasing below the apex. Fruit-stalks very pale and rather succulent. Capsule more or less pendulous, oblong-pyriform, gradually

tapering towards the base, very pale and waxy. Lid hemispherical, pointed, very pale, with a narrow red border surmounting the annulus.

This moss bears a very close resemblance in general character to *B. nutans*, of which it may have been regarded as a small variety; but the foliage in that species is larger, more lax and more deeply coloured, and it is never found with gemmiparous barren shoots, like those which so peculiarly mark the species now under consideration. From *B. carneum* it differs essentially in the form of the capsule, and in the greater length of the fruit-stalk.—W. W.

The fructified specimens figured at *t.* 1862 of *English Botany*, probably belong to *B. capillare*.

May 1st 1841.

HERNIARIA ciliata.

Ciliated Rupture-wort.

PENTANDRIA Digynia.

GEN. CHAR. *Calyx* 5-cleft, persistent. *Petals* 5, filiform, inserted with the 5 stamens upon a fleshy disk. *Stigmas* nearly sessile. *Fruit* 2-seeded, indehiscent, covered by the calyx.

SPEC. CHAR. Stems herbaceous, prostrate, clothed with very minute decurved hairs. Leaves orbicular-ovate, ciliated. Clusters of sessile flowers axillary upon the lateral branches and distinct.

SYN. Herniaria ciliata. *Bab. in Linn. Trans. v.* 17. 453. *Prim. Fl. Sarn.* 39. *Hooker Br. Fl. ed.* 4. 126.

Herniaria. *Ray Syn.* 160.

THIS plant has been usually confounded with *H. glabra*, *t.* 206, but any person who will take the trouble of comparing that plate with the present, will be convinced of the great difference which exists between them. Our present subject is very abundant about the Lizard Point, in Cornwall, growing upon a gravelly soil, and on the tops of walls and hedge banks; it also occurs in one place in Guernsey, upon a stony spot by Port de Fer. The specimen figured was sent from the former locality by Mr. Borrer and the writer in July 1839.

Plant dark green. Stems procumbent, spreading extensively, but scarcely rooting, covered with minute decurved hairs. Leaves ovate or nearly orbicular, ciliated, nearly sessile. Stipules minute, white, membranous, triangular-ovate, ciliated. Flowers small, green, collected into clus-

ters of 4 or 5 together. Clusters solitary, or 2 or 3 together, in the axil of each leaf of the lateral branches, and distinct. Sepals oblong, obtuse, and generally tipped by a strong hair. Petals and stamens rising from a fleshy disk, the former strongly resembling the filaments of the stamens, but alternate with them, and apparently in an exterior whorl, and also alternate with the sepals. Anthers yellow, tipped with scarlet. Germen oblong, narrowed above, and tipped by a very short style, and two slightly divergent stigmas.

H. glabra, of which *t.* 206 is a characteristic figure, differs from this by its much longer leaves, which are usually glabrous, and its coalescing clusters of flowers, which make the lateral branches present the appearance of leafy irregular spikes. Its sepals are more acute, its stigmas smaller and less divergent, and its colour paler and yellowish green. It is much to be feared that this plant is now lost from England, since it has not been observed for many years in either of its stations near London, Finchley and Colney Hatch, nor in Suffolk; but it is frequent in Jersey and Guernsey. The plant of the Cornish stations is *H. ciliata*. Through the kindness of the Rev. T. Gisborne I am possessed of a specimen, marked by Mr. Dickson as *H. hirsuta*, and gathered at Finchley Common in 1795; but it is not that plant, being exactly *H. glabra*, thus throwing great doubt upon the claim of *H. hirsuta* to be regarded as a native of England.—C. C. B.

May 1st 1841.

2858.

POTAMOGETON prælongus.

Long-stalked Pondweed.

TETRANDRIA Tetragynia.

GEN. CHAR. *Flowers* sessile upon a spike which issues from a sheathing bractea. *Perianth* single, of 4 scales. *Anthers* sessile, opposite to the scales of the perianth. *Pistils* 4, which become 4 small nuts. *Embryo* curved.

SPEC. CHAR. Leaves all submersed, elongate-oblong, amplexicaul, obtuse and hooded at the end, entire. Stipules without wings. Nut obliquely ovate, keeled on the back when dry. Spike cylindrical, many-flowered. Peduncle very long, cylindrical.

SYN. Potamogeton prælongus. "*Wulf. in Roem. Arch.* 3. 331." *Linnæa, v.* 2. 191. *t.* 5. *f.* 14. *Reich. Iconog. t.* 185. *f.* 323. *Dethard. Consp. Megapol.* 15. *t.* 1. *Gaudin Fl. Helv. v.* 1. 474. *Host Fl. Aust. v.* 1. 222. *Hook. Br. Fl.* 70. *Koch Syn.* 676. *Murray's Northern Flora* 106. *Kunth Fl. Berol. v.* 2. 312.

THIS fine *Potamogeton* has now been noticed in many parts of the kingdom: in Scotland it would not appear to be of rare occurrence; in England it has been found in only two stations, namely, in a ditch adjoining the river Thames at Caversham bridge, near Reading, by W. Borrer, Esq., and in the river Waveney in many places between Scole and Beccles, in the greatest plenty; Dr. Taylor has found it in the river Blackwater, in the county of Kerry, Ireland. The specimens figured were gathered in the river Wave-

ney, near Mendham in Suffolk, on the 22nd of June, 1840, by the writer of this, at which time the plant was in its most perfect state.

The stems are long, round, branching, smooth, arising from deep water and forming dense masses of foliage just beneath the surface. Leaves all submersed, opposite or more usually alternate, elongate-oblong, entire, contracted at the end so as to form a small hood, their bases half clasping the stem; all membranous, with about 5 strong nerves extending quite from the base to the apex, with several (about 2) weaker intermediate nerves and numerous transverse reticulations, pale green, changing to brick-red as they decay. Stipules tinged with red, ovate, clasping the stem, without wings. Spikes about 2 inches long, cylindrical, with numerous closely-placed flowers upon a very long (often 1 foot or more) curved, cylindrical, solitary peduncle. Fruit a compressed, obliquely ovate nut, which is ornamented with one large central and two smaller keels upon its back when dry, but rounded when wet.

Our plant does not agree exactly with the figures given by Reichenbach or Detharding, in the former of which the peduncles are represented as about as long as the leaves, and the fruit as being rounded at the back, with a thin, prominent, wing-like keel; but in our plant the peduncles are at least twice as long as the leaves, and the back of the fruit, although rounded when it is wet, has no wing. In Detharding's plate the leaves are represented as much shorter than we have ever seen them on British specimens.—C. C. B.

May 1st 1841.

2859.

OROBANCHE barbata.

Ivy Broom-rape.

DIDYNAMIA Angiospermia.

GEN. CHAR. *Calyx* of two often bifid sepals, or monosepalous and 4-fid. *Corolla* ringent, 4–5-cleft. *A gland* beneath the germen. *Germen* 1-celled, 2-valved. *Seeds* numerous, upon opposite parietal placentas.

SPEC. CHAR. Sepals with 1 prominent nerve and several faint ones, ovate, with a long subulate point, or bifid, as long as the bent tube of the corolla. Lips of the corolla obscurely denticulated and wavy; upper 2-lobed; lower with 3 nearly equal lobes, the central one longest. Stamens inserted near the bottom of the tube, glabrous except at the base within. Style glabrous, minutely downy above.

SYN. Orobanche barbata. *Poir. Enc. v.* 4. 621. *Reichen. Iconog. t.* 655. *Fl. Excurs.* 353. *Bab. Prim. Fl. Sarn.* 66.

O. Hederæ. *Duby Bot. Gall.* 350. *Don Syst.* 4. 629.

THE present plant has been usually confounded with *O. minor*, *t.* 422, which is as constantly parasitical upon *Trifolium pratense* as this is upon *Hedera Helix*, a fact which would suggest the probability that they ought to be separated even if the structural characters were less apparent; for it is well known that the different species of *Orobanche*, although they may grow indifferently upon plants included in the same genus, rarely inhabit separate genera, and never, I believe, stray from the natural order in which their

usual victim is included. In the present case, numerous differences between this plant and *O. minor* will be detected upon a close examination of them both. In the latter the central nerve of the sepals is scarcely stronger than the others, the lobes of the lower lip of the corolla are equal in size and length, the stamens are inserted rather higher up the tube, the style is glabrous, with the exception of a line of hairs in front below, and the stigma is remarkably bilobed and its disk purple.

In our plant the stem is erect, simple, from 6 inches to 1½ foot in height, swollen at the base, glandular-pubescent, usually purple, scaly. The scales are more numerous below; the lower ones broad and ovate, the upper more lanceolate, soon withering, when they become of a brown colour. Flowers in a long terminal spike. Bracteas lanceolate, solitary, longer than the corolla. Calyx of two ovate sepals lengthened out into long, slender, subulate points, which are equal in length to the tube of the corolla, usually with a short acute lobe near their base in front, rarely bifid, with the anterior lobe shortest. Corolla cream-coloured, with prominent purple nerves, becoming darker as the germen enlarges and ultimately reddish brown, glandular externally, tubular, arched, cylindrical; the upper lip 2-lobed, with its margins deflexed, wavy, acutely and finely toothed; the lower lip 3-lobed, the central lobe longer than the others and slightly broader; margins wavy, incurved, acutely and finely toothed. Stamens inserted at about one line above the base of the corolla, glabrous, but with a few glandular hairs on their lower part within. Germen ovate, terminating in a style about as long as the tube of the corolla, and minutely downy in the upper part. Stigma slightly 2-lobed, its disk yellow.

Found growing parasitically upon ivy in many places; it has been observed at Lexlip Castle and Mucruss Abbey in Ireland; at Barmouth and at Oystermouth Castle, near Swansea, in Wales; at St. Ives, Cornwall, (where the specimens figured were gathered in July 1839;) on Berry Head, at Torquay and at Combe Martin, Devonshire; on the Worle Hill by Weston super Mare, Somersetshire; in the Isle of Wight; and in Guernsey.—C. C. B.

2860.

ATRIPLEX deltoidea.

Deltoid-leaved Orache.

POLYGAMIA Monœcia.

GEN. CHAR. *Sterile flowers*: *Perianth* 5-partite, inferior. *Stamens* 5. *Fertile flowers*: *Perigone* of 2 more or less connected valves. *Stigmas* 2. *Pericarp* membranaceous, free. *Seed* vertical; its hilum lateral or almost basal; testa crustaceous; radicle inferior, ascending.

SPEC. CHAR. Stem erect, herbaceous, with ascending branches. Leaves all hastate-triangular, unequally toothed, opposite. Enlarged calyces ovate-triangular, toothed, tuberculated on the back, longer than the fruit, arranged in a compound, many-flowered panicle. Seeds smooth and shining.

SYN. Atriplex deltoidea. *Bab. Prim. Fl. Sarn.* 82. *Trans. Bot. Soc. Edin. v.* 1. 12. *Leight. Fl. Shrop.* 501.

IT is only after a long and craeful study of the living plants referable to this genus, that we have ventured to present to the botanists of Britain a new species of *Atriplex*; and we do it with the full conviction that most of those who have not made the genus their peculiar study will consider it to be only a variety of *A. patula*. We have, however, satisfied ourselves that it is a really distinct and far from uncommon species.

Root fibrous. Stem erect, striated, quadrangular, 1–2 feet high, branched, the branches ascending, often reddish. Leaves mostly opposite, all triangular-hastate, truncate at

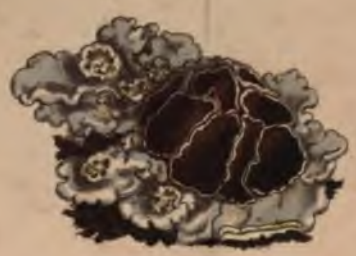
the base with descending lobes, irregularly sinuate-dentate, acute-angled at the apex, dull green above, mealy beneath, a few of the uppermost ones sometimes entire. Spikes terminal and axillary, mostly confined to the upper part of the stem and branches, shortly-branched, many-flowered, dense. Flowers in small, round, dense tufts placed near together, thus differing from *A. patula*. Calyx of the fruit ovate-triangular, sometimes almost cordate at the base, acute, dentate, strongly tuberculated, rather longer than the fruit, clothed with a dense mealy coat; before the enlargement has commenced it is nearly square, and not dentate. Seed black, smooth and shining, about half as large as that of *A. patula*, reddish when immature. The whole upper part of the plant is covered when in flower with a beautiful minutely-crystalline coat, which afterwards becomes mealy.

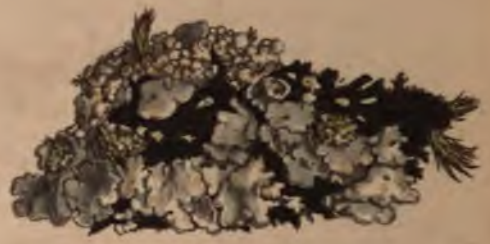
Our plant is distinguished from *A. patula* by not having its upper leaves entire, its enlarged calyx not triangularly rhomboid and entire, its spikes not interrupted and simple, nor its branches elongated; its fruit also is smooth and shining, not opaque and rough. It is necessary, however, in noticing the character drawn from the smooth seed, to point out a remarkable variation which occurs in nearly all the species when growing upon rich soil or a muddy sea-shore: in such cases, the calyx, in a few of the flowers, is often much more enlarged than usual, having a tendency to become foliaceous, and the fruit also is of nearly double the usual size, or even larger, and if usually smooth and shining, it then becomes opaque and rough. It is suspected, that when this monstrous development occurs, the seed is abortive and would not germinate.

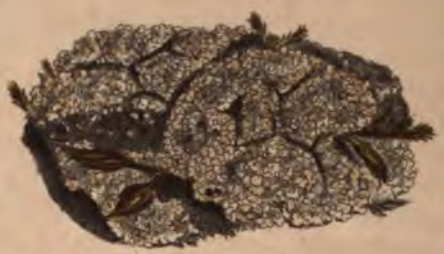
The specimens figured were gathered near the railroad at Primrose Hill, near London, on the 30th of September, 1839. The plant has been found in Guernsey, Sark, Leicestershire, Kent, and other places, growing upon waste land or in neglected corn-fields.—C. C. B.

1

2







3

LECIDEA Salweii.

Salwey's Lecidea.

CRYPTOGAMIA Lichenes.

GEN. CHAR. *Patellulæ* sessile, more or less immersed, with a margin of a substance different from the thallus.

SPEC. CHAR. Thallus of small, white, depressed, bluntly-lobed, tumid, tartareous scales. Patellulæ superficial, slightly raised, lurid-brown; margin paler, narrow, flexuose; substratum thick, pale.

ONE of the new Lichens, as we believe them, which have rewarded the accurate researches of the Rev. Thomas Salwey, of Oswestry, who first observed it about the year 1825, in the Breiddin Mountain, Montgomeryshire, and subsequently near Drws y Nant-Isaf (fig. 2.), by the road from Bala to Dolgelly, and above Gelli-rhûdd, near Barmouth (fig. 1.). It has been gathered in Priest-Leap Mountain, near Dunkerron, Ireland, by Dr. Taylor; near Sennen, Cornwall, by Mr. Ralfs; and above Twll-dû, North Wales, and in the Valley of Rocks at Linton, North Devon (fig. 3.), by the present writer, who has much pleasure in naming it after his highly respected friend, its first discoverer. It grows on the ground, in rocky situations.

Patches of irregular outline and considerable extent, composed of scales rarely a quarter of an inch over, in some parts loosely scattered on the soil or decaying mosses*, in others crowded into an uneven continuous crust. They are

* In the Irish and in two at least of the Welsh stations, on *Andræa*.

closely attached, even at their edges, to the substance upon which they grow; irregularly tumid, tartareous, about as thick as an egg-shell, roundish at first, but soon irregular and bluntly-lobed and notched; their surface unpolished, yellowish white whether wet or dry, sprinkled in varying abundance with small eruptive clusters of coarsish white granules; internal substance white, with a narrow green layer near the surface. Patellulæ about the size of poppy-seed, produced upon the scales, not in the interstices, slightly elevated, often clustered; their disk when dry flattish, sometimes buff, but mostly of a lurid umber-brown, of a somewhat pruinose appearance, with a paler slightly raised margin, which early becomes wavy and irregular; superficial layer thin, covering a copious pale substratum, which is faintly tinged with flesh-colour: upon the application of moisture the disk swells much, assuming a rather brighter hue, and the margin almost disappears. Mr. Salwey describes the patellulæ on the living plant as reddish brown, and, in a clustered specimen, much resembling a small raspberry. Some specimens have fewer of the eruptive clustered granules than others, and bear instead of them in some parts smooth pinkish warts, (fig. 3) very similar to those occurring on *Bæomyces roseus* and *B. placothallus*, to minute specimens of which last the scales of our Lichen bear at first sight some resemblance. When these warts fall off they leave little white pits. In Welsh specimens there is a little yellow about the broken edges of some of the scales, which is probably adventitious.

Unless the genus *Biatora*, constituted by Fries on apparently sound principles, be adopted, the present species must be referred to *Lecidea*, with its affinities *Lichen quadricolor*, *t.* 1185, and *Lichen glebulosus*, *t.* 1955. So nearly is it allied to the last-named, that it is not easy to assign them satisfactorily distinctive characters. Yet to the naked eye they are not much alike, the scales of *L. glebulosus* being so minute as to appear mere granulations. The margin of its patellulæ too is even, not flexuose, and the superficial stratum much thicker in proportion to the substance underneath it.—W. B.

2862.

BUNIUM Bulbocastanum.

Larger Earth-nut.

PENTANDRIA Digynia.

GEN. CHAR. *Calyx* obsolete. *Petals* obcordate, with a broad, inflexed, obtuse point. *Fruit* oblong, laterally compressed. *Carpels* with 5 equal filiform ridges, the two lateral ones marginal; interstices flat, broad, with 1 or 3 vittæ; commissure with 2 or 4 vittæ; column free, bifid.

SPEC. CHAR. General and partial involucrums of numerous linear-lanceolate leaves. Carpels oblong, obtuse, crowned with the elongated reflexed styles; interstices with single vittæ.

SYN. Bunium Bulbocastanum. *Linn. Sp. Pl.* 349. *Fl. Dan. t.* 220. *Mert. und Koch Deutsch. Fl. v.* 2. 438. *Host Fl. Aust. v.* 1. 357. *Reich. Fl. Excurs.* 477. *Bertol. Fl. Ital. v.* 3. 220.

Sium Bulbocastanum. "*Spr. Umbel.* 31." *Guss. Fl. Sic. v.* 1. 339. *Ten. Fl. Nap. v.* 3. 310.

Carum Bulbocastanum. *Koch Nov. Act. N. C. v.* 12. 121. *Syn. Fl. Germ.* 286. *DeCand. Prod. v.* 4. 115. *Bot. Gall.* 231.

Bulbocastanum majus folio Apii. *Ger. em.* 1064. *f.* 2. *Moris. Oxon. sect.* 9. *t.* 2.

ALTHOUGH the present plant is so closely allied to *B. flexuosum* as probably to have been frequently overlooked as a luxuriant form of that common species, still it is peculiarly difficult to point out any character by which it may be generically distinguished from *Carum*, a genus from which its general character and habit tell us that it is per-

fectly distinct. In *Carum* the inflexed points of the petals are narrow and acute, whilst in *Bunium* they are broad and obtuse. In other particulars the flowers and fruit of the species before us are exactly those of the genus *Carum*, whilst the fruit differs from that of *B. flexuosum* in shape and in the number of the vittæ; characters which are usually found to distinguish genera in this natural order, but which, if applied in the present case, would widely separate species which clearly constitute a single and very natural genus. Reichenbach has well observed, when speaking of this species, that "Natura certe *Caro* non junxit, quamvis artificialis horum generum disjunctio difficilis; ars tamen non est natura." This then must be considered as one of those instances in which nature shows that she will not be bound by our artificial rules, and that, however valuable a character may be found to be in any order, we still must not expect that it will be equally applicable even to all the plants included in that natural group.

Bulbocastanum majus has long since been recorded as a native of England (*Ray's Syn. ed.* 3. 209. *Sm. Fl. Brit. v.* 1. 301.); but there is reason to suspect that the true plant had never been detected in this country until the Rev. W. H. Coleman was so fortunate as to discover it, during the summer of 1839, growing upon arable land near Cherry Hinton, in Cambridgeshire, at which place the specimens now figured were gathered by the writer in the month of June 1841, the fruit being supplied from plants of a former year. The plant proves to be rather plentiful on the chalky arable land above that village, and has also been found by Mr. Coleman to extend over the whole of the chalk district, from Bygrave, near Baldock, in Hertfordshire, to the neighbourhood of Dunstable, a distance of nearly twenty miles; he also states, in a letter to the writer, that an intelligent farmer of Weston, near Baldock, informed him "that it is much less common there than formerly, since the land has been more inclosed. They turn their pigs upon the fallows to feed upon the root, and (whether from some deleterious quality, or because they speedily fatten upon it) they are said to suffer from a temporary blindness when kept too long upon it."

The root is tuberous, varying considerably in size and shape. Stems about two feet high, branched, nearly round, but rather angular and striated; their base slightly tapering, and often curiously bent by the position in which the tuber has been placed by the plough. Leaves dark green; the lower ones stalked, sometimes one or more radical, bipinnate, with a triangular outline; the leaflets pinnatifid, with short, broadly linear, mostly obtuse segments; stalks of the radical leaves tapering and zigzag under ground, those of the lower stem-leaves arising from a longish, ribbed, clasping sheath, which is bordered by a white membrane; upper leaves less divided, the uppermost springing at once from their sheaths without the intervention of a footstalk. Umbels terminating the stem and branches, flat, with from 10 to 14 rays. General and partial involucrums persistent; their leaflets numerous, unequal, linear-lanceolate, acute, with white membranous margins. Partial umbels many-flowered, the inner flowers sterile. Limb of the calyx obsolete. Petals white, almost equal, deeply obcordate, with a broadish, linear, obtuse, inflexed lobe. Styles short in the flower, lengthening as the fruit advances, and then reflexed. The ripe fruit oblong, obtuse, glabrous, laterally compressed, with 5 equal filiform ridges, of which the two lateral are marginal; interstices flat and broad, and marked with 3 obsolete longitudinal lines; each interstice with only one vitta; the commissure with two vittæ. Column free, slender, bifid in its upper part.

The radical and lower stem-leaves soon fade and fall off. The flowers usually appear at about the middle of the month of June, and the fruit is ripe towards the middle of July.—C. C. B.

Nov.r 1st 1841.

2863.

PRUNUS Cerasus.

Morello Cherry-tree.

ICOSANDRIA Monogynia.

GEN. CHAR. *Calyx* inferior, 5-cleft. *Petals* 5. Stone of the *drupe* with slightly prominent seams.

SPEC. CHAR. Fruticose, stoloniferous. Leaves broadly ovato-lanceolate, firm, glabrous, not drooping. Umbels few-flowered, mostly scattered, erect or patent (not lax). Inner scales of the flower-buds leafy. Sepals obtuse. Petals firm, widely spreading.

SYN. Prunus Cerasus. *Linn. et pler. auct. europ. (excl. syn. script. anglican.). Willd. Sp. Pl. v.* 2. 991. *Wahlenb. Upsal.* 164. *Lejeune Flore de Spa, v.* 1. 222. *Revue de la Flore de Spa,* 92. *Mert. und Koch Deuts. Fl. v.* 3. 408. (descript. aptiss.). *Koch Syn. Fl. Germ. et Helv.* 206. *Pollich Palat. v.* 2. 27 (bona). *Leers Herborn. (ed.* 2.) 116.

P. acida vel austera. *Ehrh. (teste Wahlenb. et fide spec. upsaliensis ab Ehrharto ipso in herb. amiciss. Bentham cum nost. vectianis comparati.*

P. caproniana. *Gaud. Helv. v.* 3. 307 (optima).

Cerasus acida. *Endl. Poson.* 468.

C. austera. *Leight. Fl. of Shrops. add.* 524.

C. vulgaris, *Mœnch Method.* 672.

THAT the elegant shrub before us is what Linnæus and most if not all of the continental authors understood by his

P. Cerasus, and that the synonyms of this and the *P. avium* of the same authors have been misunderstood and misapplied by British botanists to slight varieties in many instances of our common wild cherry (the indubitable *P. avium* of Linnæus), will, I think, be obvious to any one who compares our present plant with the accounts given of both by the writers above quoted; the excellent descriptions by some of whom leave no reasonable excuse for longer confounding, under one and the same denomination, species so palpably distinct. Were it needful to recur to the Linnæan herbarium for further confirmation on this head, the species of *Prunus* therein contained, from their bad state of preservation, would avail us but little.

P. Cerasus was first observed by me two years ago, growing plentifully in a wood near Whippingham, in this island (Isle of Wight); since which time I have met with it in various other places, very remote from habitations, and I am now disposed to consider it as truly indigenous here, though at first inclined to a different opinion. The continental writers are divided in their sentiments on the question of its indigenous origin; some, as Gaudin and Lejeune, expressing no doubts of its being an aboriginal, whilst others regard it as naturalized in Europe and escaped from cultivation, a state in which it possibly often does occur, as it is certainly the parent of our Morello cherries, and abundantly grown in gardens for the fruit. Its natural stations are the borders of woods and copses, and especially the edges of steep overhanging banks, which it often fringes for many yards uninterruptedly. It also occurs here and there in hedge-rows, apparently requiring open sunny exposures, and has been observed in various parts of England, in Wales, and Scotland? (Ross-shire? *Loudon's Arb. Brit.*), by Mr. Borrer, Mr. Leighton and others. Mr. Mackay in his *Flora Hibernica* mentions it, on the authority of Mr. Templeton, as a native of Ireland, about Lough Neagh and elsewhere, but without hinting a suspicion that it might be more than a small red-fruited variety of the common wild cherry (*P. avium*, *L.*), whose produce is either, as in this island, red and bitter, or else black, sweet, and well-tasted.

A bushy shrub 6 or 8 feet high, sending up suckers from the roots, and rising usually with several slender (more rarely 1 or 2 pretty stout) branching stems covered with a reddish brown bark, like that of *Prunus spinosa*, or *insititia*, to which, in habit and mode of growth, it makes a certain approach. Leaves appearing with the flowers (in the Isle of Wight at the close of April, or very early in May), at first scarcely 2 inches long, bright green (not tinged with red, as in *P. avium*), varnished as it were with gum; when quite young folded together, with a slight hairiness underneath, but which, long before they are full-grown, entirely disappears, leaving them perfectly glabrous on both sides. In this earlier state they are broadly ovate and shortly acuminate, finally enlarging to 3 or 4 inches, and inclining to ovato-lanceolate with longer points; but in all stages of their development the leaves are erect or horizontal, never pendent, as is so strikingly the case with *P. avium*, besides possessing a firmness and opacity quite wanting to those of the latter. There is usually a small, reddish, flattened gland or two near the base of each leaf, of which the petioles themselves are mostly destitute. Stipules in pairs at the foot of each leaf-stalk, erect, linear, with distant, tooth-like, coloured serratures. Umbels lateral, subsessile, mostly scattered, solitary, or two together (at least in the really wild plant, for in the cultivated Morello cherry, of which Mr. Borrer and others justly consider this species the parent, the umbels are often crowded, or aggregate as in *P. avium*), few- (2—4) flowered, with an occasional single flower-bud interspersed. Peduncles simple, erect, spreading, or deflexed, but not drooping from their laxity as in *P. avium*, springing from buds whose inner scales are leafy, which is considered by Koch as a character of the species. Blossoms large, white, agreeably scented, making a handsome appearance in contrast with the bright green of the young leaves. Sepals ovate, very blunt, and rounded, strongly deflexed, with a few crenate serratures, scarcely $\frac{1}{3}$rd the length of the broad, round, firm, and widely-spreading petals. Drupe small, round, red, juicy, acid, ripening very late, and sparingly produced in the wild state, at least in this island.

The specific character of *P. avium* may be amended thus: Arborescent. Leaves ovato-lanceolate, drooping, downy beneath. Umbels sessile, lax, aggregate around the leaf-buds. Sepals somewhat pointed. Petals weak, flaccid, a little connivent.—W. A. B.

2864

Nov.r 1st 1841.

2864.

CALLITRICHE platycarpa.

Broad-fruited Water-Starwort.

MONŒCIA Monandria.

GEN. CHAR. *Calyx* none, or rudimentary. *Corolla* none. *Bracteas* 2, opposite, petaloid. *Styles* 2. *Fruit* of 4 laterally compressed, indehiscent, 1-seeded carpels.

SPEC. CHAR. Peduncles of the fruit wanting, or very short. Fruit tetragonal; carpels parallel, slightly winged at the back. Styles at first erect, afterwards reflexed over the fruit. Bracteas converging.

SYN. Callitriche platycarpa. *Kütz. in Reich. Icon. t.* 883. *Reich. Fl. Excurs.* 754. *Koch Syn.* 245. *Bab. Prim. Fl. Sarn.* 36. *Leight. Fl. Shrop.* 446.
C. pedunculata, var. spathulata. *Bab. in Mag. Zool. and Bot. v.* 1. 137.

IT will probably be found that this little aquatic plant is amongst the more common natives of England; for since my attention has been drawn to it, I have observed it in Cambridgeshire, Devonshire, Cornwall, Leicestershire, Norfolk and Caernarvonshire, and in Mayo and other parts of Ireland. Mr. Leighton has sent it from Shropshire; it occurs in Jersey, Hampshire and Sussex, and has been found as far north as the Long Island, Outer Hebrides.

The whole herb mostly floating or creeping upon mud, and with nearly all its leaves of the same size and form. Stems much branched, producing several fibrous roots from nearly every joint. Leaves ovate or nearly orbicular, obtuse or truncate, scarcely emarginate, tapering below into a short, broad, and foliaceous petiole, 3-nerved, the lower ones if under water somewhat lengthened. Bracteas 2, persistent, lanceolate, acute, converging, about $\frac{1}{3}$rd of the length of the filament of the reniform, 1-celled anther, and half as long as the ripe fruit. Styles 2, capillary, erect

and slightly diverging at the time of flowering, afterwards reflexed and bent round the fruit. Germen commonly slightly stalked. Fruit nearly sessile, or upon a peduncle which it exceeds in length, consisting of 4 carpels, keeled and slightly winged on the back, placed by pairs parallel to each other, yellowish green when fresh, becoming very pale and nearly white when dry. Several of the carpels are often abortive. Mr. Sowerby has observed the highly interesting fact, that a few of the flowers of this plant are truly hermaphrodite, consisting of one stamen and a set of carpels included within a single pair of bracteas. I have had the satisfaction of confirming this observation, which tends strongly to prove that the criticised description of *C. verna*, *t.* 722, by Sir J. E. Smith, is correct.

Our plant closely resembles *C. stagnalis*, "*Scop.*," as described and figured by Kützig in Reichenbach's *Iconographia*, *t.* 882; but as that plant appears to differ from *C. platycarpa* merely by having its carpels diverging in a cruciform manner,—a structure which will probably justify its specific distinction; whilst in our plant I have always found them placed so that the whole fruit is compressed with parallel sides, 2 of the carpels standing end to end in nearly a straight line, and parallel to the other two;—I have referred this to *C. platycarpa*, although none of Kützig's figures well represent it. I am inclined to suspect that less care has been taken in delineating the foliage in those otherwise excellent plates than was desirable, as I have never yet seen a *Callitriche* that will agree with any of them in that particular; the flowers and fruit are admirably represented.

C. verna, *t.* 722, resembles our present subject; but has fruit of only half the size, its carpels rounded on the back, with scarcely a trace of a keel, and its styles erect, both when in flower and also when in fruit. *C. pedunculata*, *t.* 2606, has dark-coloured fruit, similar in size and form to that of *C. verna*, except in its more strongly keeled carpels; but it is often pedunculated, its styles diverge at the time of flowering and are afterwards reflexed, and it has no bracteas; its leaves also are mostly linear, although a few of the upper ones are obovate in the sessile-fruited variety. In *C. autumnalis*, *t.* 2732, the fruit is larger than that of *C. platycarpa*, with much broader wings; the bracteas are wanting, and the leaves are all linear. I have not had an opportunity of examining the styles of this last plant in a fresh state.—C. C. B.

Nov.r 1st 1841

2865.

HYPNUM brevirostre.

Short-beaked Feather-Moss.

CRYPTOGAMIA Musci.

GEN. CHAR. *Fruitstalks* lateral. *Peristome* double; outer, of 16 teeth; inner, a membrane cut into 16 segments with intermediate filiform processes. *Calyptra* dimidiate.

SPEC. CHAR. Stem ascending, irregularly branched, subpinnate. Leaves widely spreading, cordate-ovate, concave, suddenly contracted upwards and acuminated, serrated, two-nerved at the base; those of the stem striated and squarrose. Capsule ovate, cernuous. Lid conical, with a very short blunt beak.

SYN. Hypnum brevirostrum, *Ehrh.* (*not Engl. Bot. t.* 1647, *which is* H. rutabulum.)

H. brevirostre, *Schwaegr. Suppl. I. sect.* 2. 279. *t.* 225. *a. Mougeot and Nestler, no.* 423. *Hook. and Tayl. Musc. Brit. ed.* 2. *p.* 182. *Grev. Crypt. Scot. t.* 337.

Hypnum triquetrum, β. minus. *Web. and Mohr Bot. Tasch.* 354.

Hypnum umbratum. *Sm. Fl. Brit.* 1299? (*not Engl. Bot. t.* 2565.)

OUR specimen was gathered near Killarney in Nov. 1829, and it has been seen in Cheshire, Devonshire, Hampshire, Sussex, Scotland, and Wales, bearing fruit, not very freely except in mountainous woods, where it covers detached masses of rock.

This moss was several years ago distinguished by Ehrhart, and published as new in his *Plantæ Exsiccatæ*; but was afterwards confounded by Sir J. E. Smith with *Hypnum rutabulum*, and, through excessive caution rather than ignorance, was long afterwards retained by Weber and Mohr and other writers, as a variety of *H. triquetrum*, from which it is nevertheless abundantly distinct. Unlike that moss, which has a very erect stem, this species has a very straggling habit of growth, so as to be almost procumbent, extending to the length of six inches and more, and the branches are often bent downwards and attenuated at the extremity, where it sometimes also becomes rooted. The

stem is red and rigid, having, while young, its branches often pinnate, in which state it bears no inconsiderable resemblance to *H. flagellare*, to which species, except in the smooth fruitstalk, it is indeed very closely allied, though it has also some resemblance in general habit to *H. striatum*. The leaves are various, all of them closely serrated, two-nerved at the base, suddenly contracted above the middle, and thence prolonged into a narrow wavy point; those of the stem distant and squarrose, with very broad clasping bases; those of the main branches patent, concave, and, especially in a dry state, marked with striæ; those of the smaller branches more closely imbricated, and scarcely striated. Fruitstalk very smooth, usually about three-fourths of an inch in length, sometimes rather more. Capsule shortly ovate, cernuous, somewhat ventricose and pellucid, so as to show the sporular sac within, very glossy and smooth on the surface, especially while recent. Lid conical, with a very short, cylindrical, mucronate beak, very carefully and accurately expressed in our figure, but not well represented or described by Schwaegrichen. Calyptra yellow, prettily tinged with red on the upper part.

The description of *Hypnum umbratum* in Smith's *Fl. Brit.* (gathered in Ireland by Dr. Scott), on the authority of Mr. D. Turner, agrees well with our moss; but *H. umbratum* of Ehrhart, *no.* 66. (regarded by Smith as identical with his), is a different, though very closely allied species. Assuming that *H. umbratum* of Mougeot and Nestler, *no.* 329, is the same as Ehrhart's, that moss is not easily distinguished, except by very close examination, from *H. brevirostre*. The chief differences observed are these: Stem and branches in *H. umbratum* tomentose, with dense root-like fibres; leaves ovate, acute, all of them strongly plicato-striate; the serratures large and distant; the double nerves stouter and often combined into one, extending above half-way up the leaf; the general aspect more like that of *H. splendens*. Bridel, in his *Bryol. Univ. vol.* ii. *p.* 433, makes the following remarks under *H. umbratum*: "*Turn. Musc. Hib. p.* 158? e descriptione et synonymiâ contra Hookerum qui ad sequens pertinere affirmat. Specimina Hibernica hujusce musci e Turneri descriptione omnino cum nostris conveniunt." If this be correct, then the true *H. umbratum* has been found in Ireland; a circumstance the more probable, from the fact that there exists in the Hookerian Herbarium a specimen gathered in the Forfarshire mountains, which exactly agrees with *H. umbratum* of Mougeot and Nestler. The moss figured under that name in *Engl. Bot. t.* 2565, belongs however to our *H. flagellare*, a species hitherto unknown on the continent, and essentially distinguished by its rough fruitstalks, faithfully figured and described in *Engl. Bot.*, but overlooked in later works.—W. W.

Nov.r 1st 1841.

2866.

RALFSIA deusta.

Fungiform Ralfsia.

CRYPTOGAMIA Algæ.

GEN. CHAR. *Frond* flat, more or less squamæform, coriaceous, composed of vertical fibres, not simply reticulated. *Fructification* hemispherical tubercles consisting of articulate clavate fibres, and oblong *seeds* situated at their base.

SPEC. CHAR. Fronds entirely resupinate, more or less orbicular, at length confluent, deep brown, clothed beneath with scattered rusty down.

SYN. Padina deusta. *Eng. Fl. v.* 5. *pt.* 1. 281.
Zonaria deusta. *Ag. Sp. Alg.* 132. *Syst. Alg.* 265.
Fucus, &c. *Fl. Dan. t.* 420.
Fucus fungiformis. *Gunn. Norv. pt.* 2. 107.

FRONDS 1—1½ inch broad, resupinate, attached by their whole under surface, at first orbicular, at length from the confluence of many individuals forming irregular, somewhat reticulated masses, exactly as in many *Thelephoræ*; thin, coriaceous, obscurely zoned above, rugose and warty, dark brown; below partially clothed with rusty down. Margin slightly lobed. Substance consisting of closely-packed, cellular, vertically arranged filaments, occasionally stratose, which, when viewed by transmitted light, are of a beautiful golden brown. Fructification hemispherical gelatinous tubercles, consisting of clavate, shortly articulated, yellow-brown filaments, bearing at their base obovate seeds consisting of a grumous mass surrounded by a broad pellucid border. Besides the clavate filaments there are scattered tufts of short, slender, acuminate threads.

Our specimens of this very interesting Alga were kindly

communicated by Dr. Johnston, who gathered them near Berwick. It appears confined to the more northern parts of Europe, and, though specifically distinct, is nearly allied to *Zonaria squamaria* of the Mediterranean. The structure is quite different from that of true *Padinæ*, and there can be no doubt that it belongs to a distinct genus, as indicated by Dr. Greville in *Algæ Britannicæ*. The fructification figured appears to be precisely like that found by Mr. Turner on *Ulva squamaria*. Candour obliges us to point out the very great resemblance which it bears to *Myrionema strangulans*. Similar fructification is figured by Suhr in '*Flora*,' 1834, *Part* 2. *t.* 1, on *Zonaria interrupta Ag.* The genus will, however, be well characterised by the structure of the frond resembling that of a *Thelephora*, even if the fructification should be judged doubtful: I have, therefore, had no hesitation in dedicating it to my friend, Mr. J. Ralfs, of Penzance, a very zealous and able Algologist.—M. J. B.

March 1st 1843.

2867.

POLYGONUM mite.

Lax-flowered Persicaria.

OCTANDRIA Trigynia.

GEN. CHAR. *Calyx* of 5 persistent segments. *Corolla* none. *Stamens* 5–8. *Styles* 2–8. *Fruit*, a one-seeded compressed or trigonous nut, with a lateral embryo, and the cotyledons linear-oblong.

SPEC. CHAR. Leaves lanceolate. Ochreæ funnel-shaped, with adpressed hairs and long cilia, without glands. Spikes erect, interrupted, lax, thickened upwards. Calyx without glands. Fruit lenticular or triquetrous. Flowers 5-androus, usually digynous.

SYN. Polygonum mite, "*Schrank Baier Fl. v.* 1. 668." *Mey. Chlor. Hanov.* 475. *Koch Syn.* 618. *Hooker Brit. Fl. ed.* 4. 164. (*not Pers.*)

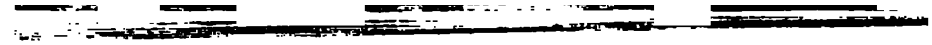
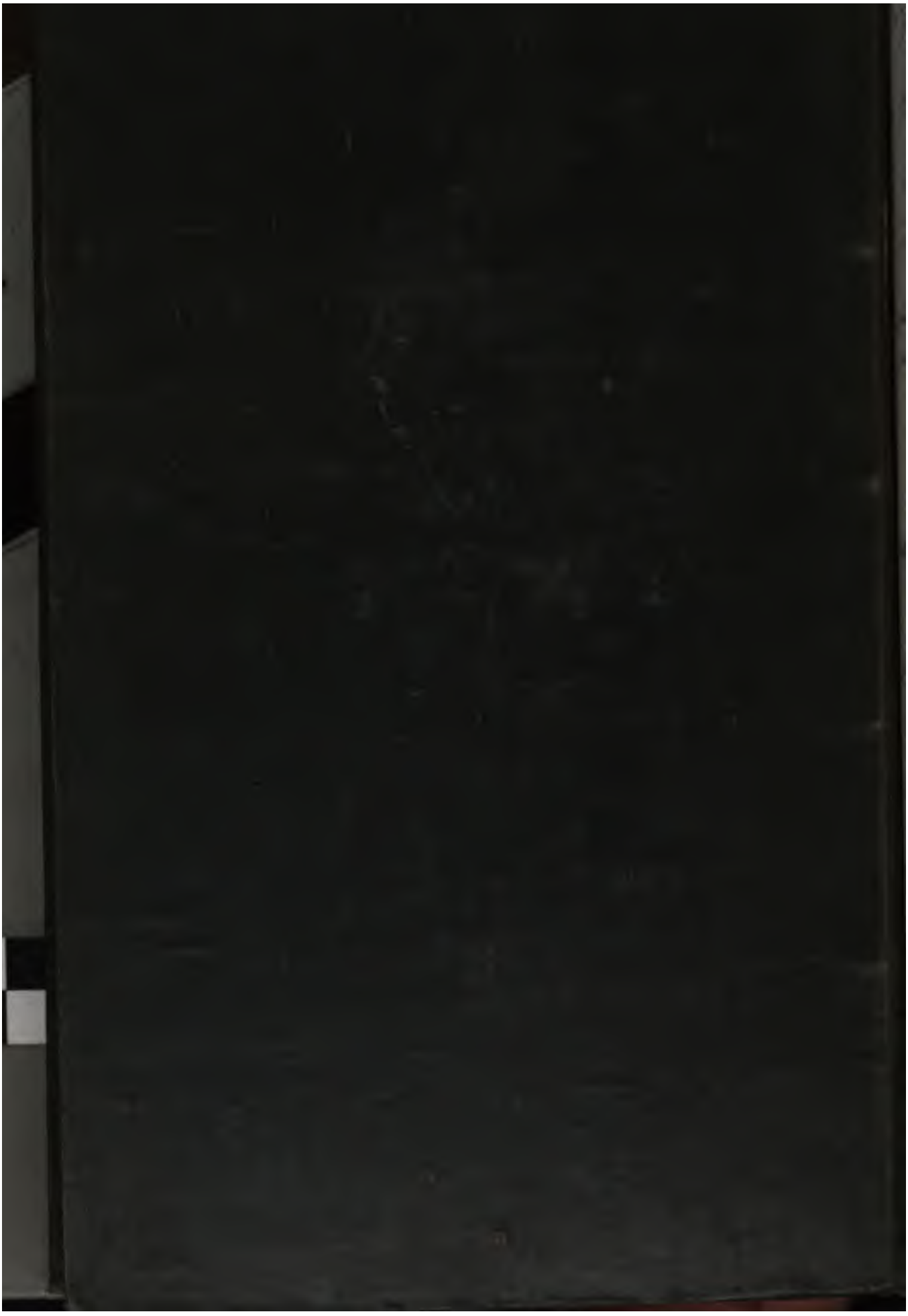
P. laxiflorum, *Weihe Bot. Zeit.* 1826. 746. *Mert. und Koch. Deuts. Fl. v.* 3. 55. *Reich. Fl. Excurs.* 571. *Wimm. und Grab. Fl. Siles. v.* 1. 381. *Bluff. und Fingerh. ed.* 2. *v.* 1. *pt.* 2. 28.

P. Braunii, *Bluff. und Fingerh. ed.* 1. 509. *Spenn. Fl. Frib. v.* 2. 308.

P. Hydropiper, var. *Curt. Fl. Lond.*

IT gives us much pleasure to introduce a fifth new British species of Polygonum into the present volume of this Supplement, and we cannot refrain from remarking how strong a proof this is of the necessity which exists of studying with greater care the more neglected genera contained in our native Flora.

Probably the present plant is not uncommon, but has been overlooked as a form of *P. Hydropiper*, from which it is distinguished by its hairy, not glandular, ochreæ, erect spikes, glandless calyx, 5-androus flowers, and style divided only half-way down. From *P. minus* it differs by its funnel-shaped, not adpressed ochreæ, thickened spikes, fruit of double the size, and 5-androus flowers. Upon dry land it sometimes approaches closely to *P. Persicaria* in the form of its spikes, but they still retain an inversely conical form, which we believe is not found in that plant. A small portion of a dry land specimen is introduced in the plate.

In this species the lower part of the stem is prostrate or slightly ascending, and sends out roots at each joint, then erect with long divaricated branches, slightly thickened above the joints. Leaves lanceolate, subcordate at their base, but sometimes attenuated, slightly wavy; their margins fringed with hairs pointing forwards, and the midrib slightly hairy above. Ochreæ funnel-shaped, clothed with a few adpressed hairs, rather strongly fringed, not at all glandular. Flowers with 5 stamens, and usually only 2 styles, which are connected for about half their length; sepals 4, but rarely 5, without glands, rose-coloured. Spikes erect, long, interrupted, thickening and becoming rather more dense upwards; in dry places much shortened and condensed, but still thickening from below upwards. Fruit slightly rough and somewhat shining, lenticular, with one of its faces more convex than the other, or rarely triquetrous; the faces ovate and acute.

The late Mr. Sweet considered this as *P. minus*, and denominated Hudson's plant *P. repens*. It was first detected by Prof. La Gasca of Madrid, by the road side at Chelsea, at which place, and also near Cambridge, we have recently observed it. It frequents wet ditches. The drawing was made from specimens gathered in a ditch by the river side, below Cambridge, on the 4th of October, 1839.—C. C. B.